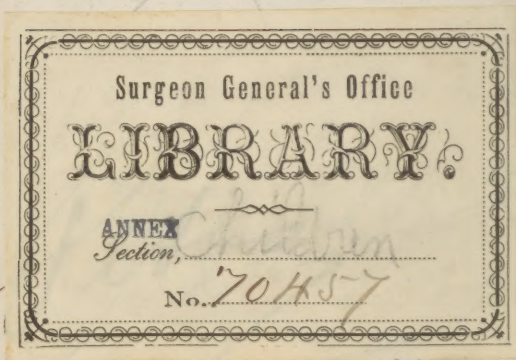


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DUE ~~TWO WEEKS FROM~~ LAST DATE
FEB 16 1966

A GUIDE
FOR
MOTHERS AND NURSES
IN THE
MANAGEMENT OF YOUNG CHILDREN ;

WITH REFERENCE TO HEREDITARY, OR FAMILY DISEASES ;
AND ADVICE TO THE PREGNANT, AND LYING-IN FEMALE.

Compiled, in part, from the best English and American Writers.

BY CALEB TICKNOR, A.M., M.D.

Late Professor of Hygiene in the University of the City of New-York :

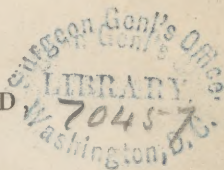
Author of "the Philosophy of Living ;" (No. 77, Harper's Family Library ;)

"An Exposition of Quackery and Imposture in Medicine," &c. &c.

NEW-YORK :
TAYLOR & DODD,

LATE JOHN S. TAYLOR.

1839.



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1839

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the Southern District of New-York.

G. F. HOPKINS, 2 ANN-STREET.

Dedication.

TO MY COUNTRYWOMEN,

WHO HAVE THE HAPPINESS TO BE MOTHERS,

These Pages are Inscribed,

WITH THE HOPE THAT THEY MAY BE INSTRUMENTAL
IN DIMINISHING THE SUFFERINGS,
AND PRESERVING THE LIVES
OF THEIR OFFSPRING.

SECTION.

TO THE HONORABLE

THE SENATE OF THE UNITED STATES

IN SENATE

REPORT

IN DIMINISHING THE BUTTERING

AND PRESERVING THE LIFE

OF THE BUTTERING

TESTIMONIALS.

NEW-YORK, Aug. 8, 1839.

DR. TICKNOR.

DEAR SIR:—I have perused with much satisfaction the volume entitled "A Guide for Mothers and Nurses." Such a work has long been required; and it is eminently calculated to confer a lasting benefit on the community, and justly entitles you to their grateful remembrance.

Respectfully yours,

S. R. CHILDS, M.D.
No. 18, Park Place, N. Y.

DEAR SIR:—I have read with much pleasure and interest your "Guide for Mothers and Nurses." From the valuable information it contains in relation to a subject of so much importance to the community, it cannot fail to prove of great value. I hope it will be in the possession of every family; convinced, as I am, that if the excellent precepts contained in your little book are strictly adhered to, much sickness and suffering will be prevented, and many lives preserved.

Yours truly,
FRANCIS E. BERGER, M.D.

THURSDAY, Aug. 8th, 1839.

TO DR. TICKNOR.

DEAR SIR:—I have examined with some care the little work you have submitted to me. I am pleased with the plan and execution of the volume.

As a general rule I believe medical works designed for popular use, are detrimental in their influence, and subserve no good purpose. This objection does not hold good in relation to the book which you have prepared for the press. The design is the prevention of disease and suffering in the most interesting portion of our race: and to instruct and guide those who have the weighty and responsible office of ministering to the necessities of man's

TESTIMONIALS.

physical and moral nature at the most tender and helpless period of his existence. At a time, too, when his future happiness and well-being are to be determined by the manner these duties are fulfilled.

I am, with much respect, your ob't serv't.

J. C. BLISS, M.D.

NEW-YORK, Aug. 8th, 1839.

From Martyn Paine, M.D. late Professor of the Theory and Practice of Medicine in the University of the City of New-York.

Having read Dr. Ticknor's "Guide for Mothers and Nurses," and being satisfied of the excellence of its principles, I cordially recommend it to the public.

MARTYN PAINE.

NEW-YORK, Aug. 8th, 1839.

I have examined the work entitled "A Guide for Mothers and Nurses," as much in detail as the brevity of the time allowed would permit; and as the principles and directions therein contained accord with my own views and experience, I cordially approve the general plan of the work, and the manner in which it has been executed. Such a publication is essentially important to remove prejudices, to avert disease, and to preserve the health of the rising progeny, thereby preventing the transmission, to future generations, of hereditary diseases generally deemed permanent and incurable.

JOHN STEARNS, M.D.

84 White-street, N. Y.

Aug. 9, 1839.

NEW-YORK, Aug. 8, 1839.

DR. C. TICKNOR.

SIR:—I have read your book entitled "A Guide for Mothers and Nurses, in the Management of Young Children." I am pleased with its contents, and believe it will be useful in the hands of those for whom it was written.

Respectfully, your obliged friend,

JNO. NEILSON, M.D.

From Dr. Hoffman, one of the Surgeons of the New-York Hospital.

DEAR DOCTOR:—I am much gratified with your effort to enlighten, by your "Guide for Mothers and Nurses in the Management of Young Children," &c. the too prevalent ignorance on the important and interesting subjects which the work embraces. I think it calculated to do much good, and recommend its attentive perusal, not only to mothers and nurses, but to the fathers of families.

With great regard, yours truly,

RICH'D K. HOFFMAN, M.D.

To DR. TICKNOR, Chambers-street, }

August 9, 1839. }

TESTIMONIALS.

From Dr. Bedford, Professor of Midwifery in the Albany Medical College.

MY DEAR DOCTOR: — I have examined your unpretending little work, and congratulate you on the success of your enterprise. I am always pleased to find the wholesome principles of our art diffused among the people; for, in proportion as they are put forth, under the direction of the judicious physician, they cannot but tend to diminish the amount of human suffering. Your observations are especially directed to the diseases incident to women and children, a class of maladies which yield to none in point of interest. Should your counsels be attended to, much good will follow the publication of your "Guide for Mothers and Nurses."

Very truly, your friend,

G. S. BEDFORD, M.D.

695 Broadway.

I regret that the press of my engagements has urged me to so cursory an examination of your "Guide for Mothers and Nurses in the Management of Young Children." The subjects treated of are of great moment, and cannot fail to be highly interesting and useful to the ladies of the country.

It is so far in advance of every other treatise of the kind that has been given to the public, that I have no hesitation in recommending it to a general patronage.

Very truly, your friend,

F. VANDERBURGH, M.D.

21 Washington Place.

DEAR SIR: — I have perused with much pleasure and satisfaction the copy you sent me of your treatise on the Management of Lying-in-Women and their Infants, and hope it will meet the circulation it merits.

Yours, very sincerely,

THO. BOYD, M.D.

C. TICKNOR, M.D. }

New-York, Aug. 9, 1839. }

From J. K. Rodgers, M.D. one of the Surgeons of the N. Y. Hospital.
New-York, Aug. 9, 1839.

MY DEAR DOCTOR: — I have just glanced over your "Guide for Mothers and Nurses in the Management of Young Children," and am pleased with the general simplicity of your directions.

There is scarcely any subject connected with our profession, where reason is permitted to direct so little, as in the one where you have undertaken to be a "Guide." I hope that in this respect your work may be the means of producing some reformation.

Believe me ever truly yours,

J. KEARNEY RODGERS.

Dr. C. TICKNOR.

TESTIMONIALS.

NEW-YORK, Aug. 6, 1839.

Dr. C. TICKNOR.

DEAR SIR:—I have examined your "Guide for Mothers and Nurses" with great pleasure. I think it a very judicious and excellent treatise on a subject on which correct information is much wanted. I shall take every opportunity to recommend a frequent and careful perusal of it to our countrywomen.

With best wishes for the success of the publication,

I remain yours very truly,

C. R. GILMAN, M.D.

DEAR SIR:—I have read with much satisfaction "The Guide for Mothers and Nurses." It is indeed what its title imports; and if judiciously followed, I have no doubt it will be productive of great good.

Truly yours,

GILBERT SMITH, M.D.

From Dr. Francis, late Professor of Midwifery, Diseases of Women and Children, Materia Medica, &c. &c. in the University of the State of New-York.

NEW-YORK, Aug. 9, 1839.

DEAR SIR:—The little volume you sent me, designed for Mothers and Nurses, is rich in practical knowledge and sound principles. Your "Guide" will prove a safe one to all who judiciously follow its precepts.

Most respectfully,

JOHN W. FRANCIS, M.D.

TO THE READER.

THE chief reasons which induced me to perpare this work, are : — the general ignorance of the persons, for whom it is designed, in relation to the subjects of which it treats, — the great interest with which I always regard children, — and my sympathy for their sufferings, in consequence of the mismanagement of those whose duty and happiness it is to provide for their necessities and comforts.

With the desire of doing the greatest good, I have availed myself of the observations and labors of many of the most eminent men who have written on the management of children ; and have interspersed such remarks of my own as my limited opportunities have enabled me to make. The excellent work of Professors Maunsell and Evanson of Dublin has been laid under contribution, and that part of it which treats of the management of children, has been divested of its technicalities, somewhat altered, and appropriated to my own use.

Whenever I have found any thing to answer my purpose in the works of Sir James Clark, Prof. Dewees, Prof. Eberle, Esquirol, and others, I have not hesitated to use it.

The plan of managing children with reference to their hereditary predisposition to disease, I do not recollect ever to have seen more than glanced at in any work on the subject ; it is the true plan upon which to rear children,—it is the only one upon which they can be reared. This view of the subject is novel to most persons, and I doubt not will be peculiarly so to most of my readers ; and my only regret is that I have not been able to extend my remarks, and treat the subject as ably and fully as it deserves.

Of one thing, however, I am confident, and may be allowed to express my conviction of its truth,—that is, that if all the precepts contained in the following pages are honestly carried into practice, much sickness and suffering in this world, from the cradle to the grave, will be prevented.

C. T.

NEW-YORK, July, 1839.

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A GUIDE FOR MOTHERS AND NURSES, &c.

CHAPTER I.

OF THE CONDUCT OF MOTHERS DURING PREGNANCY.

THE well-being of the fetus is so immediately dependent upon whatever affects the maternal system, that the moment conception has taken place, there are new, most important, and sacred duties to be performed by the female.

Pregnancy is not a disease, but a natural healthful state ; and yet it is such an unusual state, and gives rise to such powerful and pervading sympathies, that we have a combination of circumstances peculiarly calculated to increase the liability to disease from the influence of irritating and exciting causes.

SECTION I. *Diet during Pregnancy.* The peculiar tendency to febrile irritation, and general plethora, attendant upon pregnancy, the sensibility of the stomach, and its sympathies with the uterus, often causing morbid appetite, nausea, and vomitings, render it indispensable that some attention should be paid to diet.

It is a popular opinion, — though an erroneous one — that women during gestation require more food, and that of a more stimulating character, than at other times. The foundation of this erroneous notion is in the idea that the fetus requires the additional amount of food which the mother craves. But there is little reason to believe that the slow growth of the child requires three times the quantity, which is often taken, that is necessary to support the mother when not carrying the child within her.

When there is a strong morbid appetite, it is indispensable to exercise a great deal of firmness and good sense, to withstand its importunities; keeping, at the same time, a steady eye upon the evil consequences of indulgence. A woman in this interesting situation need not be compelled to adopt a system of abstinence, or rigid diet; but she ought by all means to pursue a course not at-

tended with risk — *the happy medium*. Let her diet be plain, of a mixed character, consisting of tender meat, if she has been accustomed to it, farinaceous articles, and a moderate proportion of vegetables, if they have formerly agreed with the stomach, and ripe fruits. All kinds of pastry and sweet-meats should, in general, be avoided, as they are productive of acidity; the diseases induced by improper diet are, disordered digestion, nausea and vomiting, diarrhæa, and that most distressing complaint, heart-burn; and, what is still worse, flooding and miscarriage. I could enumerate instances of all these, were it necessary, that have occurred frequently in my own practice; and they are daily occurring in the practice of almost every physician.

Where the health has been previously good, and still continues so, pregnant women may eat and drink as they do at other times; but where there is any tendency to bowel complaint, nausea, or headaches, the utmost caution is requisite. It is not to a *single* abortion only that the danger is confined, where there is a tendency to this misfortune, or where it has once occurred. When there has been *one* miscarriage, the chances are much increased that there will be a second; and when

there has been a second, the chances are much more increased that there will be a third, and so on, till the most ardent hopes are blasted, and she who would be a mother, is doomed to live childless — *from her own indiscretion*. I have attended a lady, during the last ten months, in four miscarriages; and she had two or three previously. These were not the result of imprudences in diet, but they show the liability to a recurrence of this misfortune.

It must be remembered that an abortion is quite as injurious to the health, and impairs the constitution quite as much, as a natural labour at the full time.

Let *moderation and simplicity* regulate the diet in ordinary cases.

When the health is delicate, and the digestive organs feeble, more care is necessary in selecting proper articles of diet; the most tender, lean meats, of any kind most agreeable, broths, and farinaceous articles, without vegetables, should constitute the whole bill of fare, with, perhaps, in their season, now and then, the ripest fruits.

Acid Stomach. When there is a tendency to acidity of stomach, all substances containing saccharine matter should be avoided. Even the tea

and coffee, and all other food and drink should be prepared without sugar. Sugar is the ingredient which runs into fermentation, by which process, the acid is formed; and when this fermentation does take place, digestion is impeded or wholly arrested; then there are pains in the stomach, cholic, nausea and vomiting, cold perspiration, headache, and a sense of impending dissolution. The most distressing state is often almost instantly relieved by a half a teaspoonful of super carbonate of soda, in half a tumbler of water, or a little less of salærated, or pearlash. If the bowels are costive, a teaspoonful of calcined magnesia may be taken to correct the acidity; but at no other time, unless recommended by the family physician.

Costiveness. The bowels are sometimes so costive that their contents accumulate, and produce colics, vomiting, headache, &c., and not unfrequently pains, resembling the throes of labour. This ought, by all means, to be remedied. And as this is often the result of too inactive a life, more exercise should be taken. When it is caused by improper diet, a change in that respect should be made; and when it is a habit of long standing, an attempt should be made to break it up by all

the means that can be brought to bear upon it. The first is diet ; and, when there is nothing to forbid, that should consist, to a considerable degree, of ripe fruits and vegetables, when they can be procured, stewed prunes, figs, bread made of unbolted flour, corn bread, Indian mush and molasses. But it is often the case that none of these things are admissible ; we must then have recourse to other means. When acidity is present, magnesia may be used : or, when this is absent, the bowels may be relieved with an injection, if it is not particularly disagreeable. Castor oil, rhubarb, senna, and manna, &c. may also be employed, but nothing farther should be ventured upon without medical advice.

One thing ought, by no means, to be omitted by those who are troubled with constipation ; and that is, to give nature a chance to perform her office, by paying their devotions at the temple of Cloacina every morning, whether they experience an urgent call to do so or not. They will soon find themselves amply compensated for this small trouble. Attention to this particular is more important towards the end of pregnancy ; confined and loaded bowels then encroach upon the proper domains of the uterus, and the latter *may* be pro-

voked to expel its contents too soon, or at least to create a false alarm.

If the bowels are not freely relieved spontaneously about the time labour commences, they should always be moved, at that time, by an injection.

If the more common injection of water and molasses is not sufficiently active, it may be rendered quite efficacious by adding to a pint of warm water a tablespoonful of salt, and a gill of vinegar. This quantity will not unfrequently act as an energetic purge.

Heart-burn, Flatulency, &c. When heart-burn is the result of acidity, it may be corrected, temporarily, by neutralizing the acid, as has been directed. But, unfortunately for the comfort of those most immediately concerned, this is not always the case; and then, as it is caused by the morbid state of the stomach, I have found minute doses of calomel and opium to be the best remedy; but this is for the physician to direct. Flatulency, being only a symptom of deranged digestion, is best corrected by striking at the root of the evil, and keeping the digestion good by committing no improprieties in diet. A little soda, dissolved in water, as for an acid stomach, with a

few drops of essence of peppermint, or any other essence, is a good temporary remedy.

SECTION II. *Nausea and Vomiting.* These are very constant attendants upon pregnancy; and when they are not the result of improper food or drink, they are caused by the sympathy of the stomach with the uterus.

Many articles have been used as a preventive of these distressing symptoms; but, I am sorry to say, too often without effect. When the source of these evils can be traced to improper diet, they may be corrected by observing what has previously been said; but when sympathy with the uterus is the cause, time and patience are the best remedies.

Morning Sickness and vomiting is more likely to occur, as every one knows, in the early period of pregnancy; and very often disappears entirely by the third month. Creosote has been recently recommended for this complaint. Put four or five drops into half a tumbler of water, and take a swallow or two every half hour, or hour. When the sickness is distressing, I would recommend lying flat upon the back, applying a cloth moistened with hot brandy and spirits of camphor, to the pit of the stomach, and taking the creosote

in water, or a few drops of spirits of camphor. A teaspoonful of paregoric, or ten or twelve drops of tincture of hops will occasionally allay the complaint.

Pains in various parts, Cramps, Numbness, &c. There are often pains in the back, hips, side, &c., and cramps in the limbs; and they are often the result of costiveness—for which a remedy has already been recommended. But they are frequently caused by pressure of the enlarged uterus upon the surrounding parts. As the uterus rises in the body, the pains change their location, or diminish, or disappear. The parts accommodate themselves to the new condition of things, lose their sensibility to the new impressions, and there is consequently a greater degree of comfort; but this is not always the case; and then, although it is *cold* comfort, "*what can't be cured, must be endured.*"

SECTION III. *Bleeding, for Pains in the Head, Giddiness, &c.* It is a very popular notion, that every pregnant woman must be bled once or more during every pregnancy, be her state of health what it may. There are some, no doubt, who require it; but it is impossible to give any general rule by which to be governed in this particular,

except, that, if there be giddiness and pain which are not removed by a proper regulation of the bowels, or if they exist when the digestive organs are in a good state, it is important to seek medical advice. There is often observed a pain in the head when the feet are cold ; and then the best remedy is a foot-bath, with two table-spoonfuls of Cayenne pepper in it, often enough to keep the feet warm. Mustard flour may be used in about the same quantity ; or, in the country, where Cayenne pepper is not to be had, what would make the same quantity, of the common red pepper.

When there is tendency to flooding, the bath may be omitted, and the feet and limbs may be rubbed with a strong infusion of pepper, or mustard plasters may be applied to the soles of the feet. Bleeding is by no means always necessary in pregnancy ; and those who are about to become mothers should not insist upon being bled, contrary to the advice of their physician, and he ought not to yield his own judgement to gratify a whim.

SECTION IV. *Stimulating Drinks.* There is often a strong desire to take stimulating drinks during gestation, which, if indulged, is likely to form a habit of intemperance. The annoying sensations

created by pregnancy, are, for the time, allayed by stimulants, such as porter, ale, wine, brandy, &c.; but when their stimulant effect has subsided, a repetition of the same remedy is required more than at first. So that there is great danger in commencing; this morbid desire for unusual stimulants may be conquered by a strenuous effort of the will, if it is met at the outset, and not allowed to obtain the mastery by indulgence.

SECTION V. *Longings.* The sensibilities, and sympathies of the stomach, undergo such derangement, that disgust is created for those articles which were once most agreeable, while there is any irresistible craving for those which were before highly disagreeable or offensive. This is most likely to occur in delicate, nervous females. The question is, how far is it proper to indulge these longings when they are not for articles that are positively indigestible. I have no hesitation in saying that when the longing is really urgent, the risk of danger from indulging it is much less than it would be from disappointment; provided the craving is not for any thing absolutely disgusting or injurious. It is a fact, though a remarkable one, that, in many cases where the stomach *craves* really unwholesome articles, they may be taken

with impunity. This is well understood by most people ; and it is generally believed that ill consequences never result. But this is a great mistake, for I have seen the worst effects from this unusual indulgence ; and it must not be forgotten, that when craving for unwholesome articles is to be gratified it must be done with the greatest caution, and in moderation. When there is an appetite for charcoal, clay, and other articles of this character, the case is one that requires the advice of the medical attendant.

SECTION VI. *Dress and Exercise.* Nothing is of more importance during gestation, than dress. The practice of wearing tightly laced corsets is so decidedly injurious, at any time, that it would seem no hard matter to induce one, about to become a mother, to abandon their use, at least temporarily. But who has not seen ladies in the sixth or seventh month of pregnancy, so tightly laced for the sake of attending a ball or party, as to give no evidence, by her size, of her situation ? The duties of a mother commence when she becomes pregnant ; and we should suppose that one would sooner listen to the dictates of humanity, and discharge her responsibilities by consulting the welfare of the “fruit of her womb,” than

obey the caprice of fashion. Tight lacing impedes the circulation of the blood, prevents the expansion of the body necessary to give room to its increased and increasing contents, and, consequently, is likely to produce disordered digestion, abortion, flooding, premature labour. Besides, the child, even if born at the full time, may be delicate and feeble from not having been properly nourished, and may continue feeble during its whole life. Professor Eberle says, that since the re-introduction of corsets, uterine diseases are more frequent than formerly—that in his experience, leucorrhea (whites), and prolapsus uteri, (falling of the womb,) are more frequent among *unmarried* females than they were when corsets were less generally worn.

Allowing the feet to be habitually cold, by having the lower extremities too thinly clad, predisposes to headaches, convulsions, apoplexy, flooding, and abortion.

Let the clothing be adapted to the season of the year, and let it, at all times, be such as to give the greatest possible comfort.

All advice in regard to exercise may be comprised in few words. Every kind of exercise or occupation that fatigues, or excites the circulation,

should be avoided ; so, also, long walks, lifting, ascending stairs, particularly in a hurry, dancing, riding on horseback, or in a carriage over a rough road : care must be taken not to run into the opposite extreme of being too inactive. If the custom has been to take considerable exercise before pregnancy, let it be continued afterwards ; only let it be in moderation — such as riding in an easy carriage, walking moderately, and the like.

Young married females, pregnant for the first time, or those who have once miscarried, must be doubly careful to observe the precepts here laid down ; and those who have once been unfortunate, should keep very quiet for three or four weeks, about the period of their pregnancy when the abortion occurred.

SECTION VII. *The Passions* — *Anger, Jealousy, Grief, &c.* In pregnancy, a state of mental tranquillity is indispensable. Anger, jealousy, terror, grief, disappointment, in short, any of the exciting or depressing passions, may produce all the ill effects before-mentioned ; such as flooding, abortion, convulsions, and the like.

It is of great importance, then, that the greatest effort which good sense and moral feeling dictate, should be steadfastly persevered in by

pregnant females, to keep down these injurious and degrading sentiments, and irregularities of temper, when the causes which tend to excite them cannot be entirely avoided.

SECTION VIII. *The Effect of the Mother's Imagination upon the Fetus.* It may be expected that I should make some remarks upon this question, which is, and always will be, involved in mystery. It is, however, rather singular that women universally believe that a strong impression upon the mother's mind may communicate itself to the fetus, producing marks, deformities, &c. while a majority of medical men ridicule the idea as a great absurdity. It must be confessed that some strange coincidences do now and then occur, which are no more satisfactorily accounted for by the doctors than by the women. It is generally thought that the admission of this power, even if it be true would be injurious by confirming pregnant women in this faith, and putting them upon the lookout for frightful objects; thus making them anticipate unhappiness which they are never to realize. But their minds are already made up on this point; and their faith cannot be shaken by any argument that has ever been used. On the contrary, it seems to me that if they should

be confirmed in their belief, the result would be, to keep them from exposure to the causes likely to produce any unhappy effect. Here we must leave this subject, with a warning to females, that if they believe in the power of their imagination to mark their children, they must sedulously avoid all causes likely to affect their imagination; and if they happen to have been surprised by an unexpected sight, not to allow their minds to dwell upon it, but strive to eradicate the impression made, and substitute another in its place; for the power ought to act both ways; so that if it can *mark* it ought also to *unmark*. All shows, theatrical representations, and *excitements* on religious subjects should be avoided. There is a frequent tendency to despondency during pregnancy, and to anticipate the most serious results. I have often known women to prepare their grave clothes previous to their confinement, and firmly believe their death to be inevitable. It cannot be denied that giving birth to a child is attended with anxiety, and more or less peril; and it is well always to contemplate the end of life, and to be prepared for it. But the despondency of which I speak, increases the danger; and it is therefore necessary that an effort be made to maintain as much

cheerfulness as possible, and to derive encouragement from the consideration that few, comparatively, very few, die in parturition.

SECTION IX. *Attention to the Breast and Nipples.* Much of the comfort of a lying-in-woman depends upon the ease with which the child obtains its nourishment from the maternal formation. To this end a well developed and sound nipple is necessary.

The chest has been frequently so compressed by a tight dress that the nipple has not been allowed a chance to develope itself; so that when the breast has become distended with milk, it can be drawn out only with the greatest difficulty, and frequently an abscess, or broken breast, follows. Attention for a few weeks previous to confinement will, in a great measure, remedy this difficulty. The breast should be daily drawn by some person, or when this is impracticable, by a pup, and an effort made to elongate the nipple with the fingers—and this must be persevered in till the object is accomplished. A suction pump, or a common tobacco pipe, may also be used for this purpose. The nipple is itself a delicate organ, and when well developed it too often becomes cracked, raw, and sore; so that what would oth-

erwise give the greatest pleasure, causes the most exquisite anguish. This could mostly be prevented by proper management during the last few weeks of gestation, and gradually accustoming the nipple to the office it will soon be called upon to perform. Washing the nipples in warm water, drawing by the mouth daily, and exposure of the nipples to the atmosphere a few hours daily, will be the most likely means of preventing soreness. Exposure to the atmosphere gives the nipple a firmness that nothing else can. Dr. Ebale recommends a wash to be made of two drachms of tincture of myrrh, two ounces of water, and a drachm of laudanum ; the nipple to be first washed with warm water, rubbed gently with a soft flannel a few minutes, after being dried, and then the wash applied.

If these hints should be carried into practice four weeks previous to confinement, I believe we should hear but little complaint of sore nipples when nursing.

Summary of Advice to the Pregnant Female.
The following summary I have condensed from Professor Dewees's large work on the diseases of children :—

1. She must avoid all unnecessary, and especially

violent exercise, or exertion ; such as too fast walking, running, dancing, &c.

2. To avoid all situations which may subject her to unpleasant sights or seeming dangers.

3. To shun overheated rooms, and stimulating liquors of every kind.

4. To avoid all substances that have a tendency to produce a costive state of the bowels, or those which give rise to indigestion, as late suppers, &c.

5. To take no substances, or drug that shall give too frequent and too severe motion of the bowels, or such as too severely constipate them, as chalk, opium, &c., and especially not to disregard the calls of nature, when they would be successfully exerted.

6. To remove from her chest, waist, and abdomen, every restraint ; lest undue pressure should be made upon them.

7. To avoid all substances that may have a tendency to increase the irritability of the system ; as strong tea and coffee, opium, &c. the too long indulgence in bed, &c.

8. To shun all severe study, nightwatching, &c.

9. To avoid unnecessary bloodletting.

10. To have recourse to the operation when

pain, headache, sense of fulness, giddiness, the loss of, or imperfect, sight, declare the necessity of it ; but when these are present, to have medical advice.

11. The indulgence of all inordinate appetites.

12. She must not be afraid that her child will be marked because certain longings have not been indulged.

13. She must not be apprehensive of evil consequences to her child because she has been disappointed or frightened.

14. To guard against any sudden gust of passion.

15. To solicit as much as possible tranquillity and equanimity.

16. Let her turn a deaf ear to all tales of disaster, or horror, which purport to have happened to a pregnant woman, for, from an investigation, they will nearly all prove to be false.

17. Let her procure the best aid for the period of her necessities that circumstances will permit.

18. Let her not indulge in gloomy forebodings, nor unreasonable fears for the event ; nor forget how rarely death happens during, or even after, a well conducted labour.

19. Let her recollect that the safety of labour

does not depend upon the celerity with which it is performed.

20. Let her be passive and obedient, having no opinion of her own that may clash with that of her medical attendant.

21. Let her not, as she values her life, indulge in any gust of passion, lest it provoke incurable convulsions.

CHAPTER II.

RULES TO BE OBSERVED BY THE MOTHER DURING CONFINEMENT.

SECTION I. Although it comes strictly within the province of the attending physician to prescribe the course to be pursued by a lying-in-woman, yet, a few words may not be deemed unimportant, or obtrusive.

What I consider of the greatest moment of any one thing, is the proper application of the bandage immediately after delivery. This is left, by some, for the nurse to adjust, but it should be done by the physician, and strict charge should be given to the mother and nurse to pay particular attention and keep it pinned as *tightly as it can be borne with comfort*, and as low down as possible, to make pressure directly over the womb. The abdomen must be supported in this manner, after being so long distended and so suddenly deprived of its contents. I have never known a case of flooding to occur when the bandage has been properly applied. Every woman who expects to become a mother should supply herself with two

at least, of this necessary article. A variety of bandages have been recommended, but I believe there is nothing better than good firm muslin, cut to resemble a corset, so as to fit the body; it may then be made with eyelet-holes and tied with strong tape, or pinned, to suit the fancy.

The diet should be as simple and unirritating as possible, consisting chiefly of gruel, weak tea, cocoa, and the like, for the first few days; and, at the same time, the mother should be careful not to use what little strength she has in sitting up in the bed, or in exerting herself in any way. The best rule is, not even to move without considerable assistance. The room should be kept quiet and comfortable, as to temperature, both in summer and winter, well aired, and the bed should not, as is generally the case, be enclosed with curtains.

Too much care cannot be taken till after the period has passed for the milk fever; and even then, for two weeks, no company, unless it be a very intimate friend, or near relation, should be admitted.

Sitting up too soon, or walking about the room, is one of the greatest mistakes that a lying-in-woman can commit. I attended a woman who

felt so uncommonly well on the eighth day that she would walk about her room ; an attack of inflammation of the womb supervened, from which she was three months recovering. "Milk leg," as it is called, is caused by too early exercise ; so is child-bed fever, convulsions, &c. ; the last I have seen after having talkative companions during the first few days.

SECTION II. *The Breast, Nipples, &c.* The child should be applied to the breast as soon as the mother feels able to permit it ; but this should not be repeated frequently, till the milk makes its appearance. When the milk flows freely, the breasts should be kept well drawn, if the child does not do it, either by the mouth of one able to perform this office, by a pup, or by a pump, or breast-pipe. Inflammation and "*broken breasts*," may be prevented by attention to this particular. When the nipples are sore and tender, I have known the oil of eggs very serviceable : this is an old remedy, but a good one. The oil is obtained by boiling the eggs hard, roasting the yolks over a slow fire in a vessel, till they feel oily, and then putting them in a linen or cotton cloth, the oil may be expressed. The same remedies may be applied to the nipples after confinement as before ; to the observations on which the reader is referred.

CHAPTER III.

PECULIARITIES OF THE INFANT STRUCTURE AND CONSTITUTION.

SECTION I. *General Considerations.* In considering the peculiarities of the infant structure and constitution, as well as in the observations which we propose to make upon the diseases of children, we shall regard the period of childhood as consisting of two epochs—the first commencing at birth, and continuing until the twelfth month; the second commencing at the termination of the first year, and continuing until the eighth.

This division, which has been generally adopted, possesses the merit of being nearly in accordance with one definitely marked out by nature herself. About the tenth or twelfth month, the child, by its acquisition of teeth, becomes fitted for the use of other nourishment than the mother's milk; and the stomach and bowels receive, not merely with impunity, but with advantage, kinds of food, which, during the earlier months, would have been productive of serious

derangements of the digestive functions; at the same time, very obvious external changes have their commencement, and indicate marked alterations, both bodily and mental.* During the first period, also, the child is subject to some peculiar diseases and dangers, to which the attention of the physician requires to be specially directed, and the diminished liability to which, upon the commencement of the second epoch, appears materially to increase the chances of existence.

Beyond the eighth year, we would not employ the term, child — though applied by some until the age of puberty: but before then, the peculiarities characteristic of childhood have been merging into the attributes of adult age; while the influence of sex begins to be discernible, and the individual may thenceforward be designated boy or girl.

The infant, at birth, is endowed with the same organs as the adult; but so different, for the most part, in structure, developement, or even situation, as to constitute essential characters which distin-

* "At this time," says Wendt, "the hitherto projecting forehead becomes flattened, the countenance receives expression, the eyes intelligence, the limbs firmness."

guish childhood, and without a knowledge of which, neither the management nor diseases of children can be correctly understood.

Infancy may be emphatically termed the period of growth. We find the infant, at birth, fully provided with the organs of nutritive or organic life — those which are essential for the sustenance and nutrition of the individual ; while the organs of animal life or relation,—those which connect man with the external world, and make him on their completion, the superior being that he is,— are as yet but imperfect in developement or structure, and herein is to be found the basis of that great difference observable between the infant and the adult. In the former, we have the organs of nutritive life alone, fully developed, and actively employed ; but in the latter, we have both classes of organs, relative as well as nutritive, brought to completion and in full activity, constituting the period of maturity or perfect growth.

To speak in general terms, we may say, that the anatomical structures in the infant differ from those in the adult, by their greater softness or want of consistency ; being surcharged with fluids, and many of them as yet unfitted for the full dis-

charge of their appropriate functions; while in advanced life, on the contrary, the quantity of fluids diminishes, and the structures become condensed, so that the organs, instead of being too soft, have become too rigid, as we find them to be in old age. In the infant, the capillary system, in particular, predominates; absorption and deposition are active, and the processes of growth most vigorous; secretion is abundant, and evacuation frequent; the nervous sensibility being acute, and the membranes remarkable for their quantity of blood-vessels; all of which phenomena depend not merely on the abundance of blood present, and the activity of its circulation, but on the preponderance of the arteries over the veins.

Before proceeding to a particular review of the several organs, and the properties by which they are characterized in childhood, it may be well to take a glance at the general appearance of the newly born infant.

The length of the body varies from about one foot and a half to less than two feet. Baude-locque states sixteen inches and twenty-two (or at most twenty-three) inches, as the extreme limits. The average weight is from about six to seven pounds and a half; more has been assigned,

but is not common : six pounds is by far the most common weight, according to Camus's Tables.

The skin is thin, tender, and of a reddish hue ; but covered at birth with a whitish unctuous matter, called *vernix caseosa*. There is some hair upon the scalp, and the nails reach to the ends of the fingers : the joints are commonly flexed, the limbs round, and the body plump.

The relative dimensions of various parts differ materially from those observed in after life. The lower limbs are less developed than the upper ; the median point, — that lying midway between the two extremes of the body, — being found at the navel, or a line or two below it. The pelvis in the infant is small and contracted, being less developed in proportion than the chest, which is flattened at the sides, but prominent in front ; while the abdomen and head present dimensions, not only very large in comparison with the other cavities, but also as compared with their own dimensions in after life.

The newly born infant possesses little power of motion ; none of independent support. Sensation and perception are dull or absent. Its cries and movements may be looked on as involuntary — its search for food as instinctive. One

third of its time is chiefly occupied in taking nourishment, the remainder is passed in sleep.

Peculiarities not less striking or important, arrest our attention, on turning to the consideration of the internal organs ; and these we shall briefly notice in succession, commencing with those of organic life, as being first called into action : and of these the digestive organs naturally claim precedence, and will be found in a high state of developement.

SECTION II. *Digestive Organs.* The mouth of the infant is fully formed, and in some respects particularly adapted to the performance of its proper office of suction, as we see in the disposition of the palate and lips and the obliquity of the posterior nostrils ; yet appearing to be imperfect from the want of teeth, which, however, can hardly be said to be wanting — only absent : as they already exist within the gum, in due time to make their appearance, and mark a new era, when the child becomes fitted for a different aliment, from that hitherto provided by nature for its sustenance.

The mucous membrane lining the whole tract of the intestinal tube, is thick and has a velvet-like appearance ; being more sensitive and more filled

with blood-vessels, than in after periods of life ; softer in texture, and more bedewed with mucous, which is abundant, but thin ; becoming viscid however, and much increased in quantity, on the occurrence of any irritation.

The sensibility of the mucous membrane is adapted to the mild and unirritating fluid provided by nature as the suitable nourishment for the infant ; any other substance proves irritating in a greater or less degree, and is therefore to be avoided.

The stomach and upper portion of intestines are fully formed, their mucous membrane being thick, villous or velvet-like, and of a rosy tint. But the position of the stomach in the infant, differs from that in the adult, in hanging almost perpendicularly, so as to extend from the epigastrium to the umbilical region : instead of being placed in the transverse position, which it occupies in after life.

The omentum, which is attached always to the great curvature of the stomach, will, in consequence, be found in the infant, more towards the left than the right side.

The small intestines in the infant are a third longer in proportion to the length of the whole

intestinal tract, than in the adult ; and the large intestines are longer in proportion to the small, but their calibre is relatively less.

The salivary glands and the pancreas are very large, and seem particularly active.

Digestion is rapid and incessant ; the child frequently requiring food, which, if permitted, will be often taken to repletion ; so as to be ejected without effort from the overloaded stomach, which is not capable of containing more than a few ounces of fluid at a time.

The gall bladder, though small at birth, soon enlarges ; and is found to contain bile, bitter in taste, and green in colour ; but bile, in the infant, is less viscid and less charged with the principles peculiar to this fluid, than at a more advanced age when concretions are liable to form.

The liver undergoes a remarkable alteration in function and form after birth. The mode of circulation is changed ; the left lobe diminishes, some of the blood-vessels are obliterated ; while others are developed, and the secretion of bile becomes the peculiar function.

The substance of the liver becomes darker as life advances ; and the size of the organ diminishes relatively in volume, receding towards the

ribs, within which it is situated in the adult ; but in the infant, it extends to the middle region of the abdomen ; and instances are recorded, where the proportions of the liver remained through life as in the fetus.

The spleen presents little peculiarity that we are as yet able to notice ; too little is known of its functions to enable us to appreciate any changes that may occur ; but we have observed that it is subject to disease at a very early period. The spleen may be felt in the infant below the false ribs, chiefly in the middle region ; not in the left hypochondrium, as in the adult, in whom indeed the spleen can hardly be discovered by the touch, unless when in a diseased state.

The bowels at birth, are found to contain a dark coloured, inodorous, insipid substance, which is called *meconium*, and appears to result from accumulation of intestinal secretion, for which passage had not before been provided. This is, however, soon expelled, and its place occupied by the residue of the food, which from the nature of the infant's aliment, we might conjecture would be but little characterized by the properties of fecal matter. Accordingly, we find the contents of the bowels in infants much less fecu-

lent than they afterwards become; being thin, charged with mucus, and of a yellowish colour; possessing little fetor, but abundant and frequently expelled, the infant passing a stool three or four times each day.

In a similar manner, we find the other excretions less odorous, more watery, and not so largely charged with their peculiar principles, saline or otherwise, as in the adult; but they are quickly expelled, though not very abundantly secreted. The perspiration is less saline and odorous, but more watery, though not copious. The urine differs in like manner from that of the adult, and it is retained a much shorter time, being like the feces, often expelled.

This does not depend merely on the constant supply of food, or less relative capacity of the containing organ; but is connected with the peculiar sensibility of the lining membranes and irritability of the muscular coats of these organs; which, like the other involuntary muscles, are more irritable in the infant than they are subsequently found to be. In their tissue, they are softer and of a paler hue, nor has command over their actions been yet acquired.

This latter character, in particular, attaches to

the urinary bladder in the child, and occasionally continues to give annoyance for some time, by leading to frequent wetting of the dress or bed-clothes. The bladder, in the infant, is more elongated in shape, and situated higher up, than that of the adult ; but is less capacious in proportion, while the ducts leading from the kidneys to the bladder are particularly large. But it is upon its difference of anatomical structure, as regards the position of the urethra, or canal through which the urine flows from the bladder, more than perhaps other circumstances, that this difficulty of retaining the urine depends ; for the pouch or fundus of the bladder does not exist in the fetus, the neck or urethral opening being then most dependent ; and this state of parts still obtains to a certain degree in the young subject ; probably in some more than others.

The kidneys undergo remarkable alteration ; but the relation which these changes bear to the functions of the organ, is not very obvious.

SECTION III. *Organs of Respiration.* Having considered the digestive organs, or those which generate the materials for the blood, we shall now notice the respiratory organs, or those by which the blood is regenerated, and fitted again for the purposes of the circulation.

In no organs do more important changes occur, at birth, than in the lungs; in nothing does the infant more remarkably differ from the fetus, than in being a respiratory animal. The lungs, which before birth had been condensed, of a brownish red hue, very full of blood-vessels and not as yet inflated with air, now suddenly augment in size, becoming, after respiration, of a rosy colour, soft and vesicular in structure, and crackling to the touch.

The respiratory process is carried on with rapidity and force, consonant with the general activity observable throughout the system; and in particular, with the constant demand for fresh supplies of blood. The inspirations are frequent, counting from 35 to 40 in the minute, or nearly double those of the healthy man; while the sound emitted on the passage of the air, is so peculiar, from its force and clearness, as to obtain the distinguishing appellation of *puerile or child-like respiration*.

Notwithstanding this activity in the process of respiration, it would appear that less oxygen is consumed in the infant than the adult, and that the power of generating heat (a process closely related to respiration,) is also less.

SECTION IV. *Organs of Circulation.* The blood, having undergone the requisite changes in the lungs, is conveyed again to the heart, thence to be sent throughout the system. From the moment the act of respiration is performed, the circulation undergoes a total change ; and the heart is altered accordingly, becoming complete in its functions, but still retaining some remarkable peculiarities in the infant. Its volume is proportionably large ; but the relative capacity of its cavities differs from what is afterwards observed, those of the left side preponderating decidedly at first ; the balance, however, is gradually altered, until we find, in the adult, the cavities of the right side of the heart nearly three times the size of those of the left.

The thickness of the walls or sides of these cavities, however, changes inversely with their capacity ; for, from being nearly equal, the sides of the left ventricle become almost four times as thick as those of the right.

The sides of the heart are softer and paler than in after life, when the relative bulk is less, but the texture firmer, and colour deeper ; this organ being then called upon to propel its contents with greater force, as they have to traverse a longer space. In the infant, the large volume but feebler

power of the heart fits it for the propulsion of a larger quantity of blood, but through a less distance ; while the peculiar irritability of this, as well as the other hollow muscles, during infantile life, ensures more active contractility, and so, more rapid action, suited to the constant demand for fresh supply. Accordingly, we often find the pulse in the infant, like the respiration, nearly double in frequency that of the adult, varying from 120 to 140 beats in a minute.

The part of the nervous system more immediately connected with the class of organs which we have just been considering, should naturally be in a high state of developement, to allow of the fulness of function which we have seen these organs to possess ; and accordingly, we find the ganglions, or system of the sympathetic nerve, very perfectly formed at birth ; while the brain and its nervous connections, on the contrary, are very imperfectly formed, though largely developed, — more especially the brain itself.

We now come to the consideration of the second class of organs, — those of animal life, or relation to external objects ; and here we shall find remarkable changes manifested in the advance of organs from a state of essential imperfection, to

one of completeness — this advance in organization, and successive developement of function, constituting the most interesting eras of infantile life, looked forward to with eagerness, and remembered with pleasure, as the periods of dawning intelligence, and independent muscular exertion — when the infant first begins to take notice, to walk alone, and to speak.

SECTION V. *System of the Brain and Spinal Marrow.* The brain, though large in volume, is very imperfect in structure in the infant, being so soft as to be almost fluid, the quantity of watery matter preponderating much over the solid ; it is of a reddish hue, but with the outer portion less deeply coloured than in adult age, and the convolutions less deeply marked.

The brain is altogether inadequate to perform, on first entrance into life, those exalted functions which afterwards render it so important an organ, and so characteristic of the superiority of man ; and accordingly, we find the newly born child incapable of thought, and apparently devoid of perception.

The precise changes which the brain undergoes, in its progress towards perfection of structure, are not accurately determined ; but those appear

to be as important which regard alterations in the quality,* as in the quantity of the cerebral substance. The increase in size is not perhaps so remarkable as that in the density of the organ; which, according to Wenzel, does not attain its greatest weight until the seventh year,—the size and weight of the brain at that time being said to differ little from what they are at mature age, when the power of function is so far superior.

Such is the opinion generally entertained on this subject; but which is not strictly accordant to fact. The fact is, the brain does continue to increase in size until manhood; and the relative size of its different parts constantly varies during several of the first years of life; but it is not perhaps, until about the seventh year that all its parts are fully formed.

The brain of the newly born infant seldom exceeds ten ounces in weight; that of the adult averages about three pounds and a half, often something

* The presence of phosphorus constitutes an essential ingredient in the chemical composition of the brain, (as proved by researches,) and the quantity of this substance present in the brain of the child, is much less than in that of the adult, and again diminishes in advanced life. The brain of an idiot is found to be remarkably deficient in this ingredient.

less ; but in some individuals, the brain has exceeded four pounds, or even four pounds and a half in weight.

In advanced life, again, the brain diminishes somewhat in relative, as well as general, size, and it has been ascertained, according to Desmoulin's and Cauzevielh,' that it diminishes in specific gravity, from one-twentieth to one-fifteenth. It grows rigid in its quality, becomes again unequal to the due performance of its functions, as it had before been in infancy, though from an opposite cause, and second childishness is said to take place.

The cerebellum, or lesser brain, situated in the posterior part of the head, is, at birth, somewhat more advanced in organization than the brain ; but it is about the period of puberty that the relation between the cerebrum, or brain, situated in the anterior, or front and upper part of the head, and cerebellum, undergoes the most remarkable change, the latter becoming considerably augmented in relative size, being then nearly twice as large, in proportion, as it had been at birth.

The spinal marrow is largely developed, like the brain in the infant, but appears to be more matured in structure, and farther advanced in the performance of its functions.

The general sensibility is acute, and the nervous susceptibility in the infant remarkable ; so that all impressions are violently felt, and sympathetic affections are presented in a very aggravated form, and are very prone to occur, constituting a peculiar feature in the infant constitution, which may be emphatically said to be nervous. The large endowment of nervous matter, and its peculiar susceptibility of impression from the softness of its texture, appear to confer this quality, which is never to be lost sight of in the treatment of infantile disease—a remark as old as the time of Boërhaave, but which is nevertheless too frequently forgotten.

As the infant grows older, the brain becomes capable of perceiving impressions made through the senses. Signs of intelligence begin to be manifested : the infant takes notice, and becomes sensible of the qualities of bodies, recognising them and exhibiting symptoms of gratification or annoyance. The nerves of sensation, however, though freely developed, are as yet but imperfect in their functions, and inadequate to the conveyance of their appropriate impressions ; while we find that the apparatus by which the external sources of these sensations are supplied, is more

or less imperfect, and destined to undergo much alteration.

To notice particular senses, we shall commence with vision, which does not appear to exist in the newly-born babe, though the eye is fully developed: and it has been ascertained, that perfect images are formed on the retina. Vividly illuminated objects seem soon to attract notice; but the eye follows, or is fixed on them, at first, in an apparently passive manner, little dependent on the will. Light is at all times agreeable to the infant, which seems naturally to dislike darkness; but a very bright light is injurious, as well as annoying, to the eye.

The sense of hearing is as little exercised as that of sight, in the first instance. It is doubtful if the young infant can hear at all; at least for some time it does so but very imperfectly; and that this must be the case is manifest, from the deficiency of structure in the external ear, which is, as yet, ill calculated to collect or receive vibrations of sound.

Taste early exists, and provision is made for its exercise in the full developement of the mouth; but probably perception of flavours is enjoyed to a less extent than we might at first suppose. The

apparatus connected with the sense of smell, is much less fully formed ; and although this sense be manifested early, there is little probability that delicacy of perception is early enjoyed by it.

The absence of speech, or of the capability of uttering articulate sounds, is a deficiency characteristic of infancy, but not to be accounted for by mere anatomical examination of the organs of voice, though these certainly are but imperfectly developed. This condition of parts, combined with an immature muscular endowment, sufficiently accounts for the shrill, feeble tone, and wailing cry, peculiar to the infant ; but the acquisition of the power of speech is connected with the advance of intellect, rather than alteration of mechanical structure, in this part of the apparatus of voice. The gradual alteration going on in the larynx, or upper portion of the windpipe, does not become very evident until the period of puberty, when all the organs concerned in articulation, become elongated and enlarged, and a change in the tone of voice is consequently occasioned. In the male this assumes the deep and grave sound, which characterises the full-toned voice of manhood ; while in the female little change takes place in the larynx ; and the acute tones still re-

main characteristic of the female voice, which always more or less resembles that of childhood. The mechanism on which depends the power of articulating intelligible sounds, is more connected with the increased growth and power of the muscles of the mouth and pharynx, which, even before intellect begins to dawn, become, by a happy provision, early developed, being necessary both for sucking and swallowing. The infant begins to articulate at from half a year to a year old; and usually speaks plainly, or so as to be understood by a stranger, at from two to three years of age.

The general sense of touch, or perception of contact, makes us conscious of the presence of external bodies; and to a certain extent, is exercised by the whole cutaneous surface, though not in like degree. In the young infant, however, the skin does not seem well disposed for the active exercise of this power, the papillæ being less developed, and its structure more gelatinous than in after life. The sense of touch, strictly so called, — or that perception by contact, in virtue of which we not only recognise the presence, but certain of the qualities of bodies, — exists only in some organs — almost solely in the hands — and is but little developed in the infant.

Whether the skin be less sensitive or not, the muscular endowment necessary for the exercise of this sense is but very imperfect, — the use of the fingers for this purpose being yet unknown, or the attempts to employ them sufficiently awkward.

The assistance of muscles is necessary for the exercise of all the special senses; and the imperfection of the muscular apparatus is a principal cause of the deficiencies of these senses in the infant.

SECTION VI. *Apparatus for Walking.* These organs are but little developed in the child, in either of their chief component parts, bone or muscle.

The bony system, in particular, is imperfectly and unequally developed, varying according to the purposes of its different parts. The bones necessary to contain and protect important organs, as the bones of the head or chest, are much more advanced in ossification than those destined merely for muscular support, or walking, — which are but imperfectly ossified, or exist as yet only in the form of cartilage.* The bones in general are

* “The most striking fact of this kind,” to use the words of Dr. Symonds, in his able article “Age,” *Cyclopædia of Anatomy and Physiology*, “is presented in the spinal column. The circu-

characterised by their smallness of size, redness of colour, and softness of texture, being very vascular, and the earthy part not only much less in proportion than in the adult bone, but even the animal portion being less firm, in consequence of the larger proportion of gelatine. The bones in the infant, then, are little calculated, from their formation or structure, for the support of the body in the erect posture, or the endurance of strong muscular exertion; nor are the muscles themselves better prepared for such efforts.

We have already noticed the characters of the muscular tissues of organic life, or the involuntary muscles in the infant. Similar characters of structure belong to the voluntary muscles. They are pale in colour, and easily torn, being soft in consistence, and slender in shape, the bellies of the muscles not being yet formed. They contain less fibrine than in after life, and have their fibres

lar portions of the spine, which form the canal of the spinal marrow, are found strongly ossified at birth: but the bodies of these bones, which are to be used hereafter in supporting the weight of the head and trunk, are very slightly expanded, and all but devoid of earthy particles; while the projections to which the muscles employed in the flexion and extension of the column afterwards contract attachments, are either only shaped in cartilage, or may be said to have no existence.

but loosely united. Similarly imperfect are the tendons and ligaments, or muscular appendages. In the child, the irritability of the muscles, or tendency to contract, is more easily excited, but less easily sustained than in after life. Hence the motions of the child are quick or sudden, and frequent, but fail in capability of effecting powerful action, or sustaining continued exertion.

The first efforts of the infant at voluntary movements are thus necessarily imperfect. It begins to attempt walking at about twelve months of age, and has generally acquired the power of *walking alone* between the first and second year. But many are the mischances which such efforts entail; foreseeing which, nature has providently furnished a shield of defence in the yielding and elastic fatty matter, in which the body of the child is so liberally encased.

SECTION VII. *Growth.* We have already designated infancy as the period of growth; and this character, which continues during childhood, is sufficiently manifested by the progressive and rapid advance made in the body at large, and its several organs in detail. The progress of this advance is uniform; so that the successive developements of different parts observe stated periods, and a well-known order.

In this progress we are most attracted by the advance made in the organs of animal life ; but the changes which take place in the organic functions are not less remarkable, though less noticed ; consisting principally of a decrease in activity, if not power, and occurring out of sight, so as to be little exposed to observation.

As the infant grows older, digestion ceases to be so active, and the digestive tube so sensitive. Food is less frequently required ; and the kind of food may be more varied, a more stimulating variety being borne and necessary. The secretions begin more to resemble those of adult life, and the evacuations require less frequently to be voided, being no longer passed independently of the will. The involuntary muscles generally acquire more tone, grow firmer in structure, and deeper in colour, losing their *puerile* irritability.

Respiration becomes slower, and the pulsations of the heart less frequent, — the respiration gradually parting with the attributes of *puerility*, and the pulse diminishing in rapidity.

The activity of secretion becomes abated, and the membranes are not so vascular or sensitive. Less mucus is secreted naturally, or poured out on the occurrence of irritation. The capillary

vessels are no longer so abundant, nor do the arteries preponderate so much over the veins.

As the child advances in age, the activity of the sympathetic system of nerves is less manifested, while that of the brain and spinal marrow comes more into play; and the body, gradually losing the characters of infancy, begins to assume the attributes of adult age.

In these various stages of advance, we are particularly struck by the progress made in the powers of sensation, perception, and voluntary motion, or in the organs of animal life. Sensation awakens, and the senses successively and rapidly expand. Perception is manifested, and reflection in due time succeeds. Thus endowed, the child is competent to voluntary efforts; and muscular power is proportionably developed, and brought into action. The several senses improve as they are exercised, and mutually aid each other by corroborating or correcting the impressions received by each.

Our perceptive faculties are thus brought first into action, and we obtain a knowledge of the existence and properties of external objects. Memory, "the store-house of the understanding," becomes furnished, and the intellect is supplied

with the materials of knowledge and business for thought.

The progress of growth in the organs devoted to the exercise of the senses, the intellect, and voluntary motion, is remarkable and characteristic, but unequal in advance, and tardy in completion. The perfecting of these organs, finishes the process of growth ; and is not fully completed until the period of maturity, or near to the meridian of life. Perfect developement of the bones and muscles, connected with the apparatus of the organs of sense, is necessary for the full exercise of the several senses, and is not finally completed until long after the period of childhood ; nor are the powers of sensation brought to perfection before then. The acuteness of the early impressions is probably great, whether in consequence of their novelty, or the sensibility of the nerves ; and such impressions seem to be recollected as peculiarly pleasurable. But it is only by practised experience that the perfection of sensation can be attained, as is remarkably exemplified in the sense of touch.

The advance in the organs of voluntary motion,—the knitting of the frame, and development of the muscular power,—constitute the

most noted feature of growth ; and the completion of these organs, the most characteristic attribute of manhood.

The form of the skeleton, and its several parts, alter much ; and the chemical constitution of the bony system, also, undergoes change. The relative developement of the pelvis across the hips and lower limbs, comes to bear a better proportion to that of the chest and the rest of the body. The form of the spine assumes more of the alternate curvatures of full growth. The shafts of the bones become firmer, and more closely united to their heads, and the processes shoot out ; while the quantity of calcareous matter gradually increases, until the completion of bony growth, when the frame-work of the muscular system is brought to perfection.

The muscles do not remain stationary while the bones advance. Their colour deepens, and the fibres become well-defined and firm, being developed so as to form the belly or central fullness : more fibrine enters into their composition. The sheaths and tendinous appendages, have become necessary, and are added. Muscular exertion now comes into busy operation, but continues to be characterized by activity rather than power.

The child has a constant tendency to muscular movement, and loves exercise ; but the power is soon expended, and rest is required, — well-concerted, or long-sustained, muscular exertion being beyond its capability. This is an important moral as well as physical check, the corporeal power being limited, and full strength not acquired, until the controlling influence of a matured intellect has been provided.

This brings us to consider the progress of growth in another portion of the nervous system ; particularly the brain, the organ of thought and feeling, and that in which remarkable changes take place.

As the body elongates, the spinal marrow of course becomes enlarged, until it bears to the brain a greater proportion in size than it did at birth ; but having been more forward in structure from the first, its advance in this respect is less remarkable.

The brain grows, and the head enlarges remarkably, within the first year after birth — particularly, during the first few months. The imperfect state of ossification in the bones of the skull at this period, admits readily of the rapid enlargement of the skull and its contents ; this

being one of the uses of the fontanelles or openings, in addition to the facility with which they can afford in delivery, by allowing the bones to overlap each other, and so diminishing the bulk of the head. Six of these deficiencies in ossification are found at birth, the spaces being covered by membrane ; nor have the sutures or seams yet begun to form. The principal of these openings is called the bregma, and is situated at the top of the head, between the front and side bones ; another is found behind, between the hindmost and side bone ; and of the remaining two, (each of which is double, thus constituting six in all,) one is found in the temple at each side, the other behind each ear. The presence of these fontanelles (particularly that on the top of the head,) is a source of uneasiness to the ignorant, imparting to the hand an uncomfortable sensation, as if the brain were devoid of protection ; and improper, and often injurious attempts are accordingly made to remove them, by compressing the head, for the purpose of bringing the bones together. But so far from being a cause for alarm, these openings are a source of advantage. The effects of blows or falls on the head, (to which the infant is so liable,) are thus mitigated, the shock being inter-

cepted before it has affected the brain ; while, in cases of disease, the danger from effusion is lessened by the possibility of quick expansion thus permitted, and which diminishes the effects of compression. The full or sunk state of the bregma, is an important point in disease. These openings gradually close by a natural process, and will be found completely united by the fifth year, when the sutures are well marked and formed. Occasionally, the fontanelles are later in closing, the process of ossification being slow or imperfect ; and this is a just cause for uneasiness, having its source usually in a general delicacy of constitution, often connected with a scrofulous taint.

The brain not only increases much in size in the child, but also alters sensibly in structure, advancing towards more complete organization ; and this is remarkable, at the time when signs of intelligence begin to be displayed. From about the period when the first teeth appear, this advance in structure is striking, that in size having been before more remarkable. The brain now becomes firmer, more consistent, and less vascular ; the difference between the two portions is more pronounced ; the former is less red, the latter deeper

coloured; the convolutions are better marked, and so the surface more extended. The advance in quantity and quality continues manifest to the age of seven years, or about the period of second dentition, which appears to be on many accounts remarkable.

The brain has now assumed considerable volume, and its structure apparently resembles that of adult life; but after this period, advance in structure, and increase of size, may still be observed, though not so remarkably.

The character begins now to be defined, and some indications of the mental endowments of the future man are afforded; the features form, and the physiognomy begins to exhibit traces of a marked disposition. But in regarding the countenance, we must take into account the development of the bones and muscles connected with the head and face, which occurs about this age; yet, the general enlargement of the head is not so much connected with the expansion of the skull and its integuments as some insist. When the circumference of the head, taken above the orbits, does not exceed thirteen inches in the adult, idiocy always attends, according to Gall: and Dr. Voisin found, on careful examination, that

idiocy was complete when this measurement varied from eleven to thirteen inches; while that from the root of the nose over the head, to the most prominent point in the posterior part of the head, measured only between eight and nine inches. In the full-sized head, the former measurement averages two and twenty inches, the latter fourteen. A very small head is usually accompanied by feebleness of character; but the head may be large, and the person dull, or even idiotic, — the deficiency existing in the structure, or quality, not in the size of the brain.

The advance of growth in the brain, does not seem to proceed equally, either as to size or structure, in all parts. Vimont notices, that the increase of size, during the first months, is most remarkable in the parts situated at the base of the skull, and occupying the anterior and inferior regions of the frontal bone; while, of the cerebral convolutions, those soonest acquiring firmness of structure, are placed in the lateral and middle parts of the base. All know that the cerebellum does not acquire its full developement until about the period of puberty.

The head varies with the progress of growth not only in size, but shape, — the different regions

of the brain being found to bear a different relative proportion at different ages, — particularly during youth ; while at all periods there exists a certain degree of individual peculiarity.

Not less remarkably do we observe a certain order or relation in the successive developement of the several moral and intellectual powers ; which is, doubtless, dependent upon this relative advance in size or structure in different parts of the brain, though not generally confessed to be directly connected therewith, — observations for determining this point having been but partially made, and the importance of the subject not yet duly appreciated. However this may be, it is certain, that the disposition and intellect are gradually unfolded ; and that attempts to force the one or the other before its appointed time and proper progression, are sure to be attended with injurious, if not dangerous consequences. The reason is obvious and physiological ; because, what is called the cultivation of the mind, is in truth but the exercise of the brain ; and this, like every other organ, if overtasked, will be worn out or destroyed.

In noticing the developement of the intellectual powers, we see that the child observes before he reasons — that the perceptive faculties come into

play before the reflective. The child early observes and recollects things, and the qualities and relations of things; and is inquisitive about events. He constantly asks what this or that is.

But the senses advance still more rapidly than the perceptive faculties, and are thus prepared to furnish these faculties with knowledge of the various properties of matter. The differences to be observed, however, in the power of appreciating these qualities of bodies depend on differences in the constitution of the perceptive faculties — not of the senses. The eye may see well, and clearly perceive the differences in size and form, and yet not be able to distinguish differences in colours; the ear that hears best, is not that which best appreciates those variations in sound that constitute melody.

The various degrees of talent exhibited by some children more than others, depend much on the different degrees with which they are endowed with those faculties that take cognizance of the physical properties of things. In these qualities and relations of bodies, we have the foundation of the physical and natural sciences: and for these sciences, (especially the latter,) mental capacity exists at a much earlier age than seems commonly supposed.

The gift of language as a mental power, is that which earliest attracts attention, and is first cultivated. Hence, facility in this respect, with a quick observation, are taken as indications of great intellectual capacity. But the reflective faculties must be in full operation to constitute a really good understanding; and these are always the latest to be developed, and often not very liberally bestowed. It is indeed, upon a due balance between the reasoning and perceptive faculties, that the superiority of the intellect will depend. Where the latter preponderate, they early show themselves, and give a quickness of apprehension, which in the child is often taken for superior talent.

But the smartest boy does not necessarily make the cleverest man; there must be a full endowment of the reflective faculties, to give depth of thought, or soundness of understanding. When these faculties early preponderate, however, the child may be slow in apprehension, and will probably be esteemed dull; but when the period for their exercise arrives, powers will be exhibited which had not been anticipated. Peculiarities of disposition, moreover, affect these results as much as differences in talent, though seldom, if at all, taken into the account. The child often exhibits (from the earliest age) a mark-

ed disposition, as it occasionally does some peculiar talent. Almost from the moment of birth, some infants are observed to be peevish, passionate, or obstinate ; while others are gentle and affectionate, or timid. A determined infant may be seen to rule a weak parent, and even exercise an influence over a whole family. A very gentle child may never acquire sufficient force of character to make his way in the world, no matter how intellectual he may be.

The higher sentiments, generally speaking, are the more slowly developed ; and superior moral powers, as the sense of justice and religion, are among the latest to come into operation, requiring some assistance from the understanding for their direction and support.

No doubt can exist that the child is endowed with certain powers, moral and intellectual, varying in different individuals, and constituting natural differences of character ; but this militates not against the necessity for education or training, and the vast influence exercised thereby ; on the contrary, it serves as a guide and a limitation, — pointing out what requires to be cultivated, and what to be repressed ; and shows us what is possible to be done.

How important, then, to acquire a knowledge of the primitive faculties of man, and the laws by which they are regulated in their natural development, or influenced by artificial training. Nor is the necessity for such knowledge confined to the system more immediately connected with mental manifestation. The same holds good respecting all the other systems in the body ; for without due attention to each, we shall not be able to do justice to any, or secure for the whole its best advantages during the period of development or growth.

With regard to the general growth of the body, and the advance in height, weight and strength, differences arise from age and sex ; and these have been accurately investigated by M. Quetelet.

According to him, the average weight of the male infant at birth, is about half a pound more than that of the female, and the length about an inch more ; and the annual growth of the female infant is less than that of the male, but her development is more early completed. Immediately after birth, the weight of the infant is found to diminish ; nor does it begin sensibly to increase until after the first week.

The growth of the stature is most rapid during

the first year, when it amounts to nearly eight inches ; it is less rapid as the child approaches the fourth or fifth year, appearing to diminish in direct ratio to the age ; up to that time the growth in the second year being only half that of the first ; in the third year, only one third ; but afterwards it increases with a tolerably regular progression.

A remarkable difference is often to be observed in the degree of developement, or proportional growth of one organ or system of organs more than another. In some children the head is very large, and great liveliness and intelligence are early displayed, the system of nerves consisting of the brain and spinal marrow and their appendages, being that which preponderates ; and this lays the foundation for a particular temperament, which according to the rational view of M. Thomas, would, in this instance, be the nervous temperament.

In other children, great muscular power is early displayed, the chest is large, the body well nourished, and the complexion florid. This constitutes the thoracic, or as it is most commonly called, the sanguineous temperament — the circulatory system predominating. The child is strong and active, but not particularly intelligent.

When the abdomen is very large, and the circulation languid,—the child being pale, indolent, and dull, with a large appetite, but little activity of mind or body,—the abdominal organs preponderate, and the temperament is abdominal or lymphatic.

Other varieties of temperament exist; and in some individuals no temperament is strongly marked; or more than one are mixed together. But attention to the subject is important, as modifying our plan of management both in health and disease.

These varieties of constitution may be born with the child, and looked on as hereditary: but they will be much influenced by the manner in which the individual is managed; according as one system of organs, or another, is exercised or neglected. The great principle that should guide us is, to afford to all and each its proper or appropriate share of exercise or occupation, so as to strengthen the weak or ill-developed organs; while we repress those that are disproportionately developed, or over active, by consigning them to quiescence. To be enabled to do this, however, we must study the subject as physiologists.

Thus have we, in a brief and summary man-

ner sketched those peculiarities of infancy, a knowledge of which, must serve as our guide in understanding aright the management of children in health or disease. This object we have kept exclusively in view, and resisted the temptation of pursuing any of these subjects, however interesting, further than the object proposed would warrant.

We have seen the infant presented to us, in the first instance, as a mere vegetative being, with the organs of nutritive life preponderating in developement and activity.

As growth proceeds, however, the little being asserts its claim to a higher order of existence. The organs of organic life diminish relatively in importance, while those of animal life advance, and ultimately preponderate — the infant becomes a rational being.

To promote this preponderance, and ensure the sound mind in a sound body, is the great end proposed in the rearing and management of children. The principles by which we are to be guided in our attempts to attain this object, have been already pointed out; and the manner in which these principles are to be carried into effect, will constitute a chief part of the ensuing chapter.

CHAPTER IV.

MANAGEMENT AND PHYSICAL EDUCATION OF CHILDREN.

IN the consideration of the subject of this chapter, we shall adopt the division, already made, into the two epochs of infancy and childhood; and shall, therefore, first proceed to consider the management of the infant directly after its birth.

SECTION I. *Management immediately after birth.*

Let us suppose, then, a healthy child to be placed in our hands immediately after birth; the duty of the accoucheur having been duly performed, any mucus or other matter likely to obstruct its breathing has been removed from its mouth, and the cord has been tied and divided at the distance of three or four inches from its navel. The young being will be observed to cry stoutly, and to move its limbs in such a manner as forcibly to convey to us the impression that it is suffering pain, which we can readily account for, when we recollect the sudden transition of temperature it has experienced, from about 98° , the heat of the

mother's body, to that of the atmosphere, which, at the highest, will seldom exceed 70°. The production of pain, however, is but a necessary consequence of the access of air to the surface of the body; which in itself is highly beneficial, its vivifying influence being, as we learn from the ingenious researches of Dr. Edwards,* calculated powerfully to counteract the greater or less degree of insensibility induced during birth. The pain, also, by exciting the infant to cry, contributes materially to the perfect expansion of the lungs by air; the non-effecting of which, is not unfrequently attended with fatal results. Although such are the good effects of exposure to cold; it should however be but momentary, as its continuance would be, certainly, productive of the worst consequences to the well-being, and even existence of the child.

“Instinct,” says Dr. Edwards, “leads mothers to keep their infants warm, though philosophers, by more or less specious reasoning, have, at different times, and in different countries, induced them to abandon this guide, by persuading them that external cold would fortify the constitutions

* Dr. Edwards on the Influence of Physical Agents on Life.
Translated by Doctors Hodgkin and Fisher.

of their children, as it does those of adults." To this distinguished physiologist we are indebted for the observations, that the heat of mature infants at birth, is from 3° to 5° less than that of adults—varying between 93° and 95° ; that the heat of premature infants is still less; and that the power of producing heat being in all young animals at its minimum at birth, they have not the same capability of resisting a diminution of their temperature, from exposure to cold, as adults. From Dr. E.'s discoveries, we are indeed fully warranted in concluding that the philosophers of whom he speaks, are in the wrong: and that nature has, with her usual wisdom, conferred a proper instinct upon mothers, in teaching them to keep their offspring warm. It is for us, therefore, immediately upon taking charge of the newly-born child, to have it warmly wrapped up in flannel, and to take care that, in cold weather, it should be dressed in the neighbourhood of a comfortable fire, and that during the operation, it shall not be unnecessarily exposed to cold.*

* The views of Dr. Edwards have been practically confirmed by some observations of Dr. Milne Edwards, and Dr. Villermé. It is the custom in France to convey infants, within a few hours of their birth, to the office of the mayor of the commune, in order that their birth may be registered; and Drs. E. and V. discovered

SECTION II. *Washing*. When we examine more carefully the body of the infant, we shall find that it is more or less covered with a white, greasy, or curd-like substance. This is denominated the *vernix caseosa*, and appears to be provided for the purpose of defending the tender skin from the injurious effects of the warm, watery fluid in which it floats while in its mother's womb. After birth, however, this coating has no useful purpose to serve, and would be injurious, by intercepting the vivifying influence of the air of which we have already spoken.* It is, therefore, advisable to remove it; and, accordingly, the first act of the nurse is, to wash the new-born child. The washing should be performed with warm water, and a fine sponge. Particular care should be taken to remove all extraneous matters from the eyes, and from the folds of the skin, in the arm-

that the proportion of deaths, within a very limited period after birth, compared with the total births, was much greater in winter than in summer, — in the northern and colder, than in the southern and warmer, — and in parishes where the inhabitants were scattered over a large surface of ground, than in others, where they were more closely congregated round the mayor.

* If any authority were wanting for the removal of the *vernix caseosa*, we have it in the practice, which obtains universally among animals, of licking their offspring immediately after birth.

pits, &c.; but no force likely to hurt the surface should be employed: and we have not found soap to be required, although it is recommended by many writers. In this country, Great Britain, where whiskey is in universal use, the nurses generally employ a little of it for washing the child's head, under the idea that it prevents the taking of cold. This practice is certainly not a necessary one in ordinary cases; but at the same time, it does not appear to be attended with any injurious consequences: and when we can say so much for any popular custom, it is as well to let people have their way, and direct our attention the more closely to the prevention of what may be really prejudicial.

SECTION III. Dress. The washing having been accomplished with as little delay as possible, and the surface carefully dried with a soft napkin, the next business of the nurse is, to dress her charge. This process is commenced by an arrangement for the protection of the remnant of the navel string. The cut surface of this should be carefully examined, lest, as frequently happens, secondary bleeding should take place, in consequence of the loosening of the ligature, — dependent on the oozing out of the gelatinous fluid, which makes up

the bulk of the cord. If such an occurrence has taken place, a fresh ligature must be applied firmly, and its ends cut off close to the knot. The cord is then to be drawn through a circular hole, cut in a piece of old linen, about four or five inches in diameter, which is to be gently folded round it. In the preparation of this envelope, the nurses are particularly anxious to have it extremely dry and warm. It is always held carefully to the fire, and sometimes even scorched, before they will permit its application—a prejudice which is certainly harmless, and probably but one indication of the general instinct which teaches them that a new-born infant requires its heat to be carefully husbanded.* The cord thus enveloped, is to be placed flat upon the child's abdomen, and secured there by a band of thin flannel, five or six inches broad, and long enough to go twice round the body. The chief use of this band appears to be, to support the navel string and its

* As a curious instance of this dread of abstracting heat from the child, we often find the peasants of Great Britain carefully warming the scissors, before using it for the division of the cord. It is easy, and no doubt appears scientific, to ridicule popular customs and superstitions; but would it not be more discreet and philosophical, to endeavour to discover their origin from some instinct to which they may generally be traced?

covering ; and we cannot think that it is required, as Dr. Dewees* supposes, as a support to the abdomen : it never should be applied so as to make any pressure upon that cavity ; and on that account, it is well to have it made of the thinnest flannel, cut diagonally or bias, so as that it may be perfectly elastic. In fastening it, pins are usually employed ; but the fewer of these used in dressing an infant, the better ; and it would be well, if we could have strings substituted for them in every possible case. The further dressing of the body of the child, is very much a matter of fashion, with which the physician has little to do further than to see that the clothing is sufficiently warm, and not calculated to place any restrictions upon the movements of the limbs. The arrangement of the head-dress must be conducted upon principles similar to those which guide us with respect to the other clothing : the head is to be protected from the cold air by a moderately thick muslin cap, but so as that it shall suffer no compression, and not be placed in a constrained position. Over all, a thin flannel shawl is to be wrapped in such a way as neither to impede the free access of air to the mouth, nor to hamper the extremities so as

* On Physical and Medical Treatment of Children.

to prevent their spontaneous movements. The infant is then to be placed in a cradle or bed, so situated, as that it shall not be exposed to draughts of cold air ; and that while it is not absolutely in the dark, still its eyes may be protected from a strong light, which, as yet, they are unable to endure : thus placed, it will usually fall asleep, and remain so for several hours, until awakened by the calls of hunger.

[The propriety of wearing a cap must depend very much upon the season of the year. In this climate where the winters are cold and rather long, caps are necessary for young children ; but in the summers, when the heat is great and of long continuance, caps are productive of much evil after the first two or three weeks, unless made of thin material. By the uneasiness and nestling of the child the strings act as ligatures, obstructing the return of blood from the head through the larger vessels in the neck ; besides, the heat of the head is increased, thus incurring much the danger of all head affections in those thus predisposed.

It is only in the cold season, and two or three weeks in summer in new-born infants, that caps are admissible ; and healthy children in cold

weather, after the first few weeks, are better without them. Covering the head with a blanket is an error that nurses almost universally commit ; and it is one of the most serious that they can well be guilty of. They think that the child has never had air to breathe, and seem to think that he never requires it. But they should remember that he is now a breathing animal, and that the child, although small, requires just as free access to air, and just as pure air as a nurse herself does. A nurse, or mother, can judge for herself how important pure air is to the child, by covering his own head and mouth, and excluding the air with a blanket ; she would soon experience a sense of suffocation, and throw the covering from her face. It must also be remembered that infants possess great irritability, being seriously affected by small causes ; and a slight privation of air, therefore, is sufficient to do them material injury ; and I have no doubt that fits, and death indirectly, are occasioned by depriving the child of free access to air.]

SECTION IV. *Medicine immediately after birth.*
During foetal existence, the various organs designed for the performance of digestion, produce a greater or less quantity of their peculiar secre-

tions ; and, as there is no exit provided for these, they accumulate in the intestines of the child, constituting the dark green, or brownish, pitch-like substance denominated *meconium*. By many persons, even at the present day, this meconium is supposed to exert a most baneful influence upon the health of the child ; and it is believed that no time should be lost in effecting its speedy removal. Accordingly, very few children in this country, are fortunate enough to escape being dosed with castor oil, immediately upon their arrival in the world ; and many are obliged to undergo the additional peril of having a quantity of calomel forced down their throats.

Neither of these practices, however, is constantly necessary, and the last is positively injurious: the delicate mucous membrane of the child's intestines, only fitted for the reception of the mildest nutriment, is always injured by the operation of a medicine so active and so irritating as calomel. To the milder action of castor oil, the same objection does not apply ; and where the abdomen of the child is full, and no evacuation takes place for five or six hours after birth, it will usually be found advantageous to administer half a drachm of oil, provided we can procure it fresh, and free from ranci-

dity. We are, however, decidedly of opinion, that it is better and more natural to allow an infant to sleep quietly for five or six hours after birth; and not before that period to disturb it, or irritate its stomach, by the administration of any thing whatsoever. Those who advise the immediate employment of purgatives, assert that such practice is consistent with the plans of nature,* inasmuch as they suppose the milk first secreted by the mother (or *colostrum*, as it is termed,) to possess a purgative property. The argument is obviously a contradictory one; for, if nature herself provides a purgative, why should we seek to supersede her efforts by artificial means? The fact, however, of the first milk being purgative, is not proved, and is altogether denied by some. It is probable that it possesses no distinct purgative quality, but excites the intestines merely by mechanical distention, and so in effect produces expulsion of the meconium, as other food is found to do in cases in which the secretion of milk is not established, for two or three days after labour.

[A small quantity of molasses and water is frequently employed, in this country, to evacuate the meconium; and when this is insufficient, I have

* Dewees.

used a tea-spoonful of the best salad oil, which is very unirritating, and very certain in its operation.]

SECTION V. *Food.* So much for medicine, immediately after birth; and upon the same principle, viz., that sleep is what the infant most requires, we do not think it necessary to give any food for some hours. Should the mother be able to supply the natural nutriment at the end of eight or ten hours, or even earlier, as is often the case, we think the infant should be then applied to the breast; and that it is highly desirable to avoid giving, in the interim, any other food whatsoever. Should the secretion of milk not be perfectly established for two or three days, as sometimes happens, the child will be cross and evince signs of hunger, and we shall then generally find it necessary to give a small quantity of thin gruel, with a little milk. Even in these cases Professor Jörg recommends, that nothing should be given but a few tea-spoonful of lukewarm water; and we happen to know that such is his practice, without any bad results, in the lying-in Hospital of Leipzig. Notwithstanding this, however, should it not be practicable to have the child suckled within ten or twelve hours after birth, we think it advisable

to give, every five or six hours, a few tea-spoonsful of such food as has been mentioned above, but to desist immediately upon a nurse being procured, or the mother becoming herself capable of supplying sufficient nourishment.

[It is sometimes the case that infants decline taking the breast for a day or two, the mother and nurse become alarmed lest the child will never nurse ; but I have never known an instance when it did not, sooner or later, nurse with as much avidity as other children. This however, requires some management. The first thing, is not to feed it, at least for the first thirty-six hours, except something to open its bowels. The next plan to be adopted, is to make a *sugar teat*, to resemble the nipple in shape and size, as nearly as possible, of fine linen, or cambric ; and this should be kept in the child's mouth, by the nurse, several hours in the day.]

Having premised thus much respecting the attentions required by the infant immediately upon its entrance into the world, we shall now proceed to consider its further management with regard to food, cleanliness, clothing, sleep, exercise, medicine, and the action upon it of physical agents, as light, air, and temperature.

SECTION VI. *Food in the first period.* It is unnecessary to go at any length into the question of the propriety of mothers nursing their own children; the weight of the moral and physical considerations which leave no choice as to the propriety of obeying the dictates of nature, being now universally acknowledged. Women are not, at least at the present time, in this country, the unnatural deserters of their offspring that systematic writers would lead us to suppose; and we think most experienced physicians will join us in declaring, that our duty less frequently is, to urge maternal nursing, than to explain, and even enforce in individual instances, the exceptions whereby nature herself does sometimes render it impossible or inexpedient to comply with her general law. We are, in fact, oftener obliged to save an infant from destruction, and a delicate mother from injury, by forbidding ineffectual attempts at nursing on the part of the latter, than we are called upon to remind a stout and healthy parent of the urgency of the natural claims upon her. We shall therefore assume, as a general rule, that all mothers should nurse their own children, and merely indicate those cases in which it becomes necessary to substitute another mode of rearing

the child. Women who labour under any mortal or weakening disease, — as phthisis, hemorrhages, epilepsy, &c., — are obviously disqualified for the office of nurses; some, who are in other respects healthy, have breasts incapable of secreting a sufficient supply of milk, and this may be temporarily the case with one child (especially the first) while upon other occasions the same individuals make excellent nurses; in other instances the breast may perform its functions well, but the nipple may be naturally so small, or may be so completely obliterated by the pressure of tight stays, as not to admit of its being laid hold of by the child. These are actual, physical hinderances to nursing. Again, women may, and in the higher classes frequently do, possess such extremely sensitive and excitable temperaments as will render it imprudent for them to suckle their own children. Frightened and excited by every accidental change in the infant's countenance, and inordinately moved by the common agitations of life, such persons are kept by their own tenderness, and over-anxious desire to do their duty well, in a state of continued fever, which materially interferes with the formation of milk, both as to quantity and quality. Women, also, who become mo-

thers for the first time, at a late period of life, have seldom the flexibility of disposition, or the physical aptitude for secretion of milk, required to constitute a good nurse. Another disqualification for nursing we must notice, although we hope and believe that it is rarely observable among our countrywomen : if women of fashion are not contented to give up their engagements in society in favour of their domestic duties, it is better for them not to undertake the latter — “In this matter,” says Wendt, “it is better to do nothing, than only half.”

We have already stated, that the child should be put to the breast as soon as the latter contains any thing for it to extract ; this generally happens when the mother's system has been relieved, by sleep and ten or twelve hours' rest, from the fever which is always more or less attendant upon labour. Unless there has been *some* secretion of milk, it is better not to apply the child as it becomes disappointed by continued ineffectual attempts at obtaining nourishment, and there may subsequently be some difficulty in getting it to engage seriously in the business of sucking.* As

* We have heard the propriety of the advice given above, called into question. Practical men will, however, have no difficulty

soon, however, as it has fairly commenced, it will require no other food; and if the mother be a good nurse, she should be able to support her infant independently of any other nutriment, during at least two-thirds of the period of infancy, — that is to say, until the seventh or eighth month. About that time the teeth usually begin to appear, and to indicate that the digestive system is assuming a capability of doing more work than it was adequate to at first; and, accordingly, we should then take the hint from nature, and begin gradually to train and exercise its powers. The suckling of the infant, which during the first months should be performed at regular intervals of about four hours, should now be repeated not more than three or four times during the day and night; and twice during the same period some artificial food should be given. This at first may consist of soft bread, steeped in hot water, with the addition of a little sugar and fresh cow's milk; subsequently some light broth, free from fat and vegetable mat-

in understanding the advantage of preventing the disappointment to the child, and the injury to the nipple itself, sometimes occasioned by protracted drawing at an *absolutely empty* breast: this is the utmost extent of delay which we wished to recommend, and to this recommendation we must still adhere.

ters, may be given once during the day. With respect to the *mode* of feeding at this period, the spoon will be the best vehicle, as it is an object to give food somewhat more solid than could be drawn through the sucking bottle. The child, however, should not be placed horizontally on its back, and gorged until it is filled to the throat, as is often done ; but its head should be kept elevated, and its actions be carefully attended to, so that we may know, and at once stop, the moment it appears to be satisfied.

During the first five or six months, the infant must be suckled during the night as well as day, but this should be done at regular intervals of four hours ; and if it sleeps with the mother or nurse, the nipple should not be allowed to remain in its mouth, as it is not our object to keep the stomach constantly full, but to give it time, when filled, to digest its contents. A child nursed as we have recommended, will be found to awaken, with a good deal of regularity, at the proper periods for its meals. During the process of weaning, the intervals between the times of sucking at night, may be at first gradually lengthened : but in order to insure unbroken rest at a subsequent period, both to the attendants and the child itself, it is

very desirable not to accustom it to receive any artificial nourishment during the hours proper for sleep.

SECTION VII. *Wet Nursing.* We have been hitherto supposing the mother to be a perfect nurse, and the relative supply and demand to be well adjusted between her and her infant; but these are not exactly the cases which we always meet with in practice. We shall frequently have a demand greater than the supply, long before the seventh or eighth month; and in such instances, we shall be obliged to give food at an earlier period, and will often find it to agree well, if its kind and administration be regulated upon the rules just laid down. The great maxim to be observed is, *not to let the infant want nourishment which will agree with it.* If this can be furnished by the mother alone, so much the better; if the deficiency can be supplied by artificial food, without the infant suffering, there will be no necessity for making any further change: but if neither of these conditions obtain, we must have recourse to a strange nurse.

As we have stated it to be desirable, that as much as possible of infant's nourishment should be derived from the nurse, it of course becomes an

object to render our source of supply as available as may be ; and we are, therefore, legitimately called upon to consider how this may be done most efficiently. The grand secret is, in a word, to keep the nurse in good health ; if we succeed in this, we render the milk, both as to quantity and quality, as good as it can be produced by the individual. Now, how is this to be done ? Is it by overloading the stomach with a mass of indigestible food and drinks, and keeping the system under a continued fever of digestion ? or, is it not rather by allowing the person to live, as much as possible, in the manner customary with her, supposing that to be one which has hitherto preserved her in good health, — permitting her to eat her usual meals, which she will probably do with increased appetite, and not inculcating upon her the necessity of taking drinks more stimulating, or in larger quantities (relatively with her probably increased consumption of food,) than she has been in the habit of using ? With hired nurses, it is especially necessary to act upon the principle just laid down ; for these persons, coming from the scanty table of their own homes, are apt to indulge their appetites from mere novelty, if, as is usually the case, their employers show any disposition

towards a stall-feeding system. Nurses should not be kept upon any one description of food exclusively, but should have, as is natural, a wholesome, mixed, animal and vegetable diet, with or without wine, according as they have been accustomed to live; but we may, perhaps, allow them with advantage somewhat of an extra, though never an unreasonable quantity of malt drink, providing always that it be found to agree with their digestive system.

Irritability of temper, and indulgence in passion, interfere with the secretion of milk, to such an extent, that a child has been known to be attacked with convulsions immediately after being suckled by a nurse, while suffering under the effects of a fit of anger. A knowledge of this circumstance influences many persons to indulge nurses in the most extravagant whims, lest their temper should be crossed, and the child thereby injured. Irritable persons are unquestionably unfitted to nurse or manage children; but we apprehend, that over-indulgence is not the way to improve temper: and as we fear that the most learned diatribe from us, would have little efficacy in supplying a good disposition where Providence has not created it, we shall not pursue this subject farther.

[*Milk.* This is the only aliment which nature has kindly provided for the sustenance of the young of the human family, as well as for a large proportion of all inferior animals. Milk is said by some to be partly a vegetable and partly an animal production, or *vegeto-animal*; while others, again, whose mental optics must be peculiarly constructed, can see in it nothing but of a purely vegetable nature. In herbivorous animals, and in woman, when she partakes of no animal food, the milk, as well as the whole body, is, doubtless, of vegetable *origin*. The blood is significantly termed the *pabulum vitæ*, the food of life; and from it all parts of the body derive their sustenance and growth. From the blood are formed bone, muscle, nerve, tendon, horns, hair, nails, skin, the various secretions, as tears, saliva, mucus, milk, &c., and yet, because the blood of a cow, or sheep, is formed from vegetable aliment, no one thinks of calling the one or the other of these animals a *vegetable production*. The question is asked, if the food is vegetable, how can the milk be an animal production? Like many other questions, this may be best answered by putting another. If the food is purely vegetable, how happens it that the *flesh* of an animal is not purely *vegetable*

also? Speculation and fancy can do but little in settling the question, how, in the process of digestion, vegetable matter becomes *animalized*. Certainly, no one would claim that milk, drawn from a carnivorous animal, one that never tasted a vegetable, was any other than an animal production.

Milk differs greatly in the different animals—that of each species being provided solely for the sustenance of its own young. Cows' differs from human milk in containing a greater proportion of cheese and cream, and less of serum, or the watery part. "The milk of a woman who suckles, living upon vegeto-animal food, never becomes acid, or coagulates spontaneously, although exposed for many weeks to the heat of a furnace. But it evaporates gradually in an open vessel, and the last drop continues thin, sweet, and bland. The milk of a sucking woman who lives upon vegetable food only, like cows' milk, easily and of its own accord becomes acid; and is acted upon by all coagulating substance, like the milk of animals. Children affected with pain in the bowels, arising from acids, are often cured by giving the nurse animal food."*

* Hooper's Medical Dictionary.

The advocates of an exclusively vegetable diet may, perhaps, receive a severe check in their enthusiasm, by learning that animal food is absolutely necessary; and an important precept may be deduced for parents from the foregoing consideration, to wit: to substitute no other for the mother's milk, when that can be obtained.

Because nature has ordained that infants, and the young of all mammiferous animals, shall derive their sustenance from the mother's breast, it is, therefore, concluded that milk is the most proper diet for man in all ages. But in coming to this conclusion, it seems to be forgotten that nature has decreed that each species of animal shall live on the milk of its own kind. In accordance with this law, we see that the stomach of an infant cannot digest cows' milk, on account of its becoming acid, and we find also that nursing mothers are compelled to live on a mixed diet, to prevent their milk becoming like that of a cow. Thus, it is evident, from incontrovertible facts, that there is a glaring impropriety in substituting the food for one animal, which nature has designed for another. The impossibility of doing this with impunity is manifest in mature life; there being many who find it almost impossible to subsist on a milk diet.

The first process of digesting milk, is its separation into two parts, solid and fluid, or curd and whey—of which the latter is in the greatest proportion; and as the experiments of Dr. Beaumont prove that fluids are more difficult of digestion than solids, we have one reason why milk is particularly apt to disagree with those whose stomachs are deranged, and for whom it is often injudiciously recommended.—T.]

SECTION VIII. *Choice of a Nurse.* When circumstances prevent a parent from suckling her own child, it is important that we should have some principle to guide us in our selection of a strange nurse. Medical men are constantly asked for an opinion upon this subject, and we shall therefore offer a few rules, which may be useful in enabling us to form one. The great thing we have to look to is, to ascertain that both woman and child are in good health; and of this we must endeavour to judge from the following signs:—The woman's general appearance and form should be observed; and they ought to be such as betoken a sound constitution. Her skin should be free from eruptions; her tongue clean, and indicating a healthy digestion; her gums and teeth sound and perfect; the breasts should be firm, and

well formed,—not too large, or flabby,—and with perfect, well-developed nipples. We should see that the milk flows from them freely, upon slight pressure ; and we should allow a little of it to remain in a glass, in order that we may judge of its quality.* It should be thin, and of a bluish-white colour ; sweet to the taste ; and when allowed to stand, should throw up a considerable quantity of cream. A nurse should not be old ; but it is better that she should have had one or two children before, as she will then be likely to have more milk, and may also be supposed to have acquired experience in the management of infants. The more recently the nurse's own confinement has taken place, provided she has recovered from its effects, the better, as we may count upon her services so much the more permanently. It is, however, not generally a serious objection should two or three months have elapsed since

* Nurses who have not a good supply of milk will, occasionally, be found to adopt a practice commonly employed with milch cows when brought to market, and called by the cattle dealers *stocking* : that is, they allow the milk to accumulate in their breasts for several hours before presenting themselves for examination, so as to cause the examiner to believe that they are very abundantly provided. Young practitioners and mothers should be especially on their guard against this deception.

that event. Having examined the mother, we must next turn to the child, which should be well nourished, clean, and free from eruptions, especially on the head and buttocks. We should, also, carefully examine its mouth, to ascertain that it is free from sores or aphthæ. If both woman and child bear such an examination as we have mentioned, we may with tolerable security, pronounce the former as likely to prove a good nurse.*

SECTION IX. *Artificial Feeding.* What we have already stated as to the management of an infant's food, negatives altogether the question of the propriety of ever *choosing* to rear a child en-

* The following is the beau ideal of a good nurse, according to Wendt. Some of its Germanisms may amuse. "Youth, fullness of health, plenty of milk, and a good build of breasts and nipples — a rather phlegmatic temperament, — a quiet disposition, and no inclination to sensuality or dissolute habits, — a white, delicate skin, traversed by blue veins, and covered with freckles, — fair or reddish hair, large blue eyes, sound teeth, a fresh breath, a clean skin, no disagreeable odour, no unnatural discharges, a bluish-white, — rather thin, than thick and tenacious milk, which dropped upon the thumb-nail, flows off rather quickly, — it should have no smell, and a mildly sweet taste, — along with these, large and firm nipples, a cleanly person, and a harmless temper, — form the ideal of a good nurse."

tirely by artificial feeding. Certain cases occur, however, in which we have no alternative. Peculiar circumstances may preclude the possibility of procuring a nurse ; or an infant, whose mother is incapable of nourishing it, may be the subject of some contagious disease, to contamination from which, we cannot, in common honesty, permit a stranger to be exposed. The necessity of resorting occasionally to artificial feeding, obliges us, therefore, to consider how we can render it least injurious, for such is really the question ; although, we do not mean to deny, that in certain instances, extremely healthy children have been reared in this way. These are, notwithstanding, but exceptions ; for a very extended experience, in different countries, have proved that spoon-feeding is generally unsuccessful. The kind of artificial food proper to be employed, forms the subject of our first inquiry ; and, as a general rule, we may say, that it should be as like the natural nutriment as possible. This rule, however, is easier laid down, than acted upon ; “for nature,” says Dr. Prout, “will not permit the chemist to officiate as her journeyman, even in the most trifling degree.”*

* Gulstonian Lecture. 1831.

In the present state of our knowledge, then, it is vain to attempt any preparation, upon chemical principles, of a food resembling human milk. It will be better to be satisfied with employing the food of some other young animal, and modifying it, so as to make its sensible properties as nearly similar as we can to the milk in question. For this purpose, good cows' milk is usually the most convenient; and as it is thicker and whiter, and not so sweet as human milk, we may add to two parts of it, one of very thin barley water, and sufficient white sugar to make the necessary increase in sweetness. Asses' milk approaches more nearly, in sensible properties, to what we require; but it is richer, and requires to be diluted with about a third part of water. So modified, it may be used, if the cow's milk disagrees, or if it can be conveniently procured. As the child becomes a little older, thin bread pap, made as we have already directed,* may be advantageously employed; and it will also be advisable to give, occasionally, some light beef or chicken tea. In managing spoon-feeding, all our ingenuity will frequently be required for varying the kinds of food; as one

* P. 37.

which agrees well with the infant at first, may, after a little time, derange the bowels, — producing acidity, gripes, and purging, or perhaps costiveness. Thus, prepared barley, dressed with water and unboiled milk, will sometimes purge, — an effect which may be obviated by having the milk boiled. In other cases, we must have recourse to the use of arrow root, for a short time, for the purpose of restraining the bowels, and again recur to the barley when costiveness has been produced. A great matter is accomplished, if we can prevent the production of acid fermentation in the stomach and bowels; and, on this account, we must be most particular in requiring every article of food to be freshly prepared before use, and in enforcing the strictest attention to cleanliness with respect to every vessel employed. — Every kind of food should be used tepid, or lukewarm.

Our second inquiry relates to the mode of administering artificial food. This may be accomplished either with the spoon or sucking bottle.* The former has the advantage of leaving less op-

* These bottles have a narrow neck, about the size of the nipple, with a small orifice, covered with a teat of washed shammy leather, through which the infant sucks the food. They can be had at any druggist's, ready for use.

portunity for uncleanness, as a spoon is easily washed, and its condition at once perceptible ; while the bottle may appear clean, and yet contain a leaven of acidity, which will do material injury. On the other hand, the bottle has the advantage of giving out the food in a mode somewhat analogous to that employed by nature ; the child has some trouble in procuring what it wants, and will therefore not be likely to take too much ; the action of sucking must also be practised, whereby a degree of pressure is made upon the child's salivary glands, and the necessary secretion from those organs, in all probability usefully promoted. In the earlier periods, we think, the bottle possesses, on these points, decided advantages ; but while using it, too much precaution cannot be taken against uncleanness. No food should ever be allowed to remain in it after the infant has been fed ; and there should be always two in the nursery, in order that one may be exposed to the air, and dried, while the other is in use.*

[*Additional Food of Infants.* We have already

* Dr. Zwierlein of Brückenau, has written a book to prove that goats are the best and cheapest wet nurses. We fear it would be difficult to introduce the practice into this country.

to this part of our subject, in showing that milk is the food that nature has provided for the young of all mammiferous animals ; but with the importance of this truth, nurses and mothers are not sufficiently impressed. And here let me urge upon those whose happiness it is to be mothers, in all circumstances when it is not absolutely improper, the expediency at least, if not the necessity, of permitting their own offspring to draw their nourishment from that pure fountain which God has ordained. There is a holy pleasure in affording sustenance to a helpless, innocent being, brought into the world by the perils of life, and by the most exquisite pains that human nature can endure, which none but a mother can ever experience. When a mother can nurse her own infant, cold, indeed, must be her affection, when she can, with the utmost indifference, turn him over to the careless attention of a hireling nurse. Ought a parent, who can thus coldly expel from her bosom her tender offspring, to complain if in her old age she is repaid with the like affection ? To follow the dictates of nature is always safe and prudent, but to disregard her precepts, even in seemingly unimportant matters, is dangerous and unwise ; and therefore, when she has appointed a guardian and

protectress for an infant, we may rest assured that no one can, in all respects, supply her place.

If, then, it becomes necessary that a child draw its sustenance from some other breast than its mother's, let a perfectly healthy nurse be obtained; and above all, let her be of an amiable temper, good character, and of regular habits. The breast milk differs at different times, so that it may be improper for the child.

1st. As has been before mentioned in respect to food — a purely vegetable diet rendering the milk unhealthy, and causing pain and griping in the child's bowels, which is often relieved by using a diet composed in part of animal food.

2d. In respect to time of digestion. Towards the twelfth hour after eating, the milk becomes thick and yellowish, and is spit out by the child; hence the meals should be taken regularly, that a healthy secretion of this nutritious fluid may be preserved.

3d. In respect to the age of the milk. The milk that is first drawn is serous or watery; and from this period it becomes thicker, so that after a twelvemonth it is rejected by the child's stomach on account of its thickness; hence nature indicates a change of food, and the proper time for weaning.

4th. In respect to food and medicines. It is, no doubt, generally known, that in some of the Western States a disease occasionally prevails, with great fatality, called the milk-sickness, which is caused by eating the milk of cows that have fed on poisonous herbs. The milk of nurses is affected in the same manner; so that if a nurse eat onions, or any thing having an unpleasant odour, or possessing any noxious properties, the milk is impregnated with it, and rendered disagreeable and unwholesome. If a nurse indulge in intoxicating drinks, the child is intoxicated also; if she use beer or wine in moderation, the child becomes ill; or if she take purgative medicine, the child is also purged.

5th. The influence of the mind upon the body is well exemplified in the case of nursing women; the milk always becoming deranged and being rendered unfit for nutrition when the mind is any way disturbed. There are frequent instances of infants being seized with convulsions after sucking an enraged nurse; and cases are not wanting where they have been destroyed by violent inflammations from the same cause. An infant of a year old, while he sucked milk from an enraged mother, on a sudden was seized with a fatal bleed-

ing, and died ; and infants at the breast in a short time pine away if the nurse be affected with grievous care.

6th. Disease of the body, as well as affections of the mind, derange the secretion of milk, and render it unwholesome or unfit for nourishment.*

Infants should be allowed no other food than that which nature has provided ; and this should be offered them as soon as practicable after they enter this state of existence. The first drawn milk is precisely what they need to prepare their delicate digestive organs for that of a different character which is soon to be formed. They should generally, if possible, take little or no other food than the breast milk, till, by their teeth, they give evidence that nature has prepared them to receive other and more solid aliment. It is a great error in the management of children which leads a nurse or a fond mother, from some mistaken views, to be forcing down panada, arrowroot, and sundry other preparations ; this is frequently done with the fallacious idea that something, or almost any thing, is better than the mother's milk. I have little hesitation in saying, in the most decided

* Hooper's Medical Dictionary.

terms, that most, if not all articles usually given to children during the first few months after birth, are unequivocally improper and injurious.

Lactation, or nursing, defends a woman from many diseases incident to those who do not give suck ; such as induration, abscess of the breast, and other painful and dangerous affections which it is needless to mention ; so uniformly and wisely has nature ordained that punishment shall succeed the infringement of her laws.

The practice of feeding young children, on the appearance of any slight derangement in their health, with teas and other stimulating drinks, as punch, gin, essences, and the like, cannot be too severely reprobated. This custom, once universal, is happily getting into disuse, but occasionally, and quite too often, there is to be found a nurse or mother of the old school, who yet believes that intoxicating doses are necessary and omnipotent in all affections of childhood. Not long since I met with an old-fashioned mother, who wondered that her baby grew so very slowly and looked so puny, for she fed him *gin sling* two or three times every day. Regarding the use of ardent spirit in adults, the world has of late been greatly enlight-

ened ; and if the strength and vigour of manhood cannot resist their deleterious influence, as has been fully demonstrated, what must be their effect when given to children ? Besides proving ruinous to health by undermining the constitution and laying the foundation for future disease, thousands who have filled the drunkard's grave may thank the ill-directed kindness of their parents for a taste for strong drink, acquired in infancy, which in after life has irresistibly hurried them on their downward course to wretchedness and death. Observation leaves no room to doubt that many children, by being frequently dosed with alcoholic liquors, by the overweening fondness of weak mothers and nurses, are beguiled into a love for intoxicating liquors, which gains strength in the progressive stages of life. But further on this point. There can, in a philosophic mind, be no doubt that the child of an intemperate mother acquires a love for rum during the period of nursing ; with the life-giving fountain is mingled the stream of death, which, if it do not early destroy life, creates a taste that is not easily forgotten. This is not the case in the intemperate alone ; many pious, good women have hitherto believed it impossible to

nurse a child without the daily use of milk punch ; and the same cause must, in the moderate drinker, produce proportionally the same effect that it does in the intemperate.

Another, perhaps more universal practice, is the frequent dosing with paregoric. This is done, not altogether on account of ill health, but merely to suit the convenience or whim of a careless nurse, and still more careless and culpable mother. They may have company, or they wish to call on a friend to spend an hour or two, or occupy their time in some other way, and forthwith the baby is held, and paregoric is administered in sufficient quantity to put the little chap at rest. The property which paregoric, Godfrey's cordial, and all medicines of this class, have of quieting the child, depends upon the opium they contain ; with the effect of which drug in adults all are acquainted, and a similar, or worse effect is produced in infants and young children. Their digestive organs are deranged, and being thus early disordered, they with difficulty resume their healthy and vigorous tone of action. But the operation of opiates upon the body is no more to be dreaded than it is upon the mind, which is rendered compar-

atively feeble and inert, a state from which it is doubtful whether it ever entirely recovers. When a child recovers from a state of stupid intoxication, into which he has been thrown by a dose of paregoric, his delicate stomach is perhaps crammed with food, the opiate dose is again repeated, and again the "baby" is plunged into a state of stupidity.

Another error in the management of children consists in overloading their stomachs with food when they are in good health; and those who have the care of them are particularly apt to err in this respect. If the baby is uneasy or cries, he is put to the breast; and if that is not sufficient to make him quiet, he is fed with a spoon with more substantial fare — and he continues to cry from being over-distended with food. It is astonishing, often, to see a nurse ply the little fellow with nourishment; the more she can force down, the better she appears to be suited; the stomach rejects it by vomiting, and then she continues to repeat her kindness.

Infants are not unfrequently tormented with thirst, which their nurses seldom gratify; their crying is supposed to result from hunger, and they

are therefore applied to the breast. But this does not satisfy, and they again commence their unappeasable cries, and are again put to the breast with no better success. Dr. Dewees says, that he has often seen infants, when seeming to suffer exquisite agony, rendered perfectly quiet and easy by a draught of cool water.

There is no single article used as a child's diet, that disagrees, in so many instances, as cows' milk, or what is sold as such. In my own practice at least, I do not find more than one-third of the children whose digestive organs can bear it. It is often very difficult to prescribe proper food for children between the ages of one and two years. Some are habitually costive, others have an opposite state of the bowels. When the former prevails, Indian mush and molasses, bread made of unbolted flour, or mush made of the same material, will answer well with just unboiled milk enough to make it palatable. Plain cake, or gingerbread, containing jalap, and a piece of this containing five or six grains of jalap, once or twice a day, is a convenient mode of administering medicine, when the diet is not sufficient. Stewed prunes may also be used. When the bowels are

too relaxed, a diet consisting of rice, common stale bread, or crackers, with a moderate quantity of boiled milk, if this latter article agrees. — T.]

SECTION X. *Weaning*. The time of weaning, we have already intimated, should be that indicated by nature, (that is to say, between the seventh and twelfth months in ordinary cases,) when, by providing the child with teeth, she furnishes it with the means of obtaining nourishment from substances of a somewhat solid form. The mode of weaning may be easily deduced from the rules which we have laid down for the feeding of the infant. If it has been gradually accustomed to a diminished supply of maternal, and an increase of artificial food, weaning will be an easy process, and a great deal of suffering will be spared both to parent and offspring. No violent change should be made ; and by proceeding gradually, the child will come to prefer artificial food contemporaneously with the failure of the maternal supply. This is what the term weaning imports, and this is the mode in which it should be accomplished.

[Very much must depend in our variable climate, where we are subject to great extremes of tem-

perature, when the important business of weaning is undertaken. If there are no circumstances that render weaning necessary, it should by no means be undertaken in the heat of summer; for when the child can have a good supply of breast milk from a healthy nurse, the change to artificial feeding, would be placing it in jeopardy. If the mother's milk should not be good at such a season, and the child in perfect health, it had better be kept so by procuring a wet nurse till the heat of the season has subsided, and the danger from *summer complaint* passed by. — T.]

SECTION XI. *Food in the second period.* For some time after weaning, the child's food should consist of those materials which we have mentioned as proper during the latter months of suckling. Regularity in the times of feeding, is probably of nearly as much importance as the quality of the food itself. No definite rules, however, can be laid down, as to particular hours, as much must be dependent upon the habits of the child, and of its guardians, as to sleep, &c.; but the general principles should, under all circumstances, be observed, of permitting no variation, from day to day, in the time for the different meals, and of

not breaking in upon these by giving food at irregular periods ; while, at the same time, protracted fastings must not be allowed. During the day-time, about four hours is quite sufficient interval between any two meals ; this will give time enough, in children, for the stomach, and upper portion of the small intestines, to perform their offices in the process of digestion, and allow the former an opportunity of recovering energy after the discharge of its function. It is better not to allow a child to acquire a habit of being fed during the night, as uninterrupted sleep is what they then require most ; to ensure which, it is necessary that the stomach should be in a state of comparative rest. Perhaps, the best mode in which we can illustrate our ideas with respect to the plan upon which a child should be fed, will be, to describe specifically a day's feeding of a healthy child, — premising that we do not mean to enforce a literal observance of certain hours, &c. specified, but merely to give an example of the working of the principles we have laid down.

A healthy child, of two or three years old, commonly awakes, hungry and thirsty, at five or six o'clock in the morning ; sometimes even earlier. Immediately after awaking, a little bread and

sweet milk should be given to it, or (when the child is too young to eat bread,) a little bread pap. The latter should be warm; but in the former case, the bread may be eaten from the hand, and the milk allowed to be drunk cold, as it is as well, at this meal, to furnish no inducement for eating, beyond that of hunger. After eating, the child will generally sleep again for an hour or two; and about nine o'clock, it should get its second meal, of bread softened in hot water, which latter is to be drained off, and fresh milk, and a little sugar, added to the bread. Between one and two, the child may have dinner, consisting, at the younger ages, of beef, mutton, or chicken broth, (deprived of all fat,) and bread. When a sufficient number of teeth are developed to admit of chewing being performed, a little animal food, as chicken, roast or boiled mutton, or beef, not too much dressed, should be allowed, with a potato or bread, and some fresh, well-dressed vegetable, as turnips or cauliflower. After dinner, some drink will be requisite; and a healthy child requires, or indeed wishes for, nothing but water. Between six and seven o'clock, the child may have its last meal, of bread steeped in water, &c., as at nine o'clock in the morning. A healthy child, who has been in

the open air, during the greater part of the day, will be ready for bed shortly after this last mentioned supply, and will require nothing more until morning. Similar regimen and hours may be adopted throughout the whole period of childhood; only, as the fourth or fifth year approaches, giving, for breakfast and supper, bread and milk, without water, and either warm or cold, according to the weather, or the child's inclination. The supply of food, upon first waking in the morning, may also be gradually discontinued, and breakfast given somewhat earlier.

The foregoing, we conceive, may fairly be offered as a model of a suitable diet for childhood; but, as Dr. Barlow very judiciously observes, "No exclusive system can be right, nor can any precise rule of diet be possibly laid down, as this requires to be adapted, in every case, to the particular constitution concerned." With the stomach of one child, for example, so much milk as we have recommended may disagree, and produce acidity, and it may be advisable to substitute for it tea or cocoa; with another, a meat dinner every day may produce plethora, and it may be necessary to alternate with rice, or some other vegetable substance.

The constitution of the child, its habits of exposure to the air, and its residence in a city or the country, must be taken into account ; and something must also be allowed for the customs of the community in which it is being brought up. A judicious parent or physician will recollect all these matters ; and while, as we hope, they will be able to derive something like a foundation of principles from our recommendations, they will yet recognise the expediency of occasional modifications in matters of detail. It is of great importance, that no pre-conceived system or theory, with respect to diet, should be assumed and adhered to with unreflecting obstinacy, as is but too often the case. Thus one class of persons, arguing that the growth of a child requires an active nutrition, adopt the theory that an excess either in the quantity or quality of nutritious matter cannot be committed ; and then, by cramming and overloading the stomach, impair the digestive powers, so as to prevent the food from being converted into nutriment, and thus produce the defect in supply of new material which it is their object to avoid. Others, observing a healthy remnant of potato-fed children in an Irish cabin, and hearing that the Hindoos live and thrive upon rice, instantly

infer that scanty vegetable food is the true panacea for health and longevity; and accordingly, condemn their offspring or patients to the miseries and perils of an insufficient, non-animal diet. Most unfounded prejudices are also taken up from *ex-parte* observations as to the wholesomeness or unwholesomeness of individual articles of food. Fruits, for instance, are under a general interdict from the dietary of children; and the consequence is, that the school-boy, impelled by his instinct* on the one hand, and restrained by the so-called science of his managers on the other, devours, in secret, the unripe, ill-cultivated, and pernicious trash of the fruit stall, instead of being permitted a moderate use of the wholesome, cooling, and anti-septic produce of the garden. Much learned trifling has also escaped from writers with respect to the propriety and necessity of "living *naturally*, and on such food as is presented to us by nature:" and we are often told that children should be fed upon bread and milk alone; because

* We have the authority of Dr. Paris for the fact, "that artisans and labourers, in the confined manufactories of large towns, suffer prodigiously in their health, whenever a failure occurs in the crops of common fruits. This fact was remarkably striking in the years 1804 and 1805." — *Art. Dietetics, in Cyc. Prac. Med.*

the former is prepared by the simplest cookery, and the latter in what they call the laboratory of nature. Dr. Fordyce, however, has met the question, and settled it at once, by declaring that "man has no natural food." Let those who may be startled by this proposition call to their recollection the difference between the milk afforded by a cow kept alive upon the weeds and scanty vegetation of neglected waste, and one fed upon the riches of a pasture which has experienced the transforming power of cultivation; let them recollect that the wheat, of which their so-called natural diet is composed, is itself the result of a long course of cultivation, and a full employment of all the resources of the complicated art of agriculture. "The potato," says Dr. Paris, among many other examples — "the potato, whose introduction has added so many millions to our population, derives its origin from a small and bitter root which grows wild in Chili, and at Monte Video."

The science of Dietetics is, in truth, an uncertain one; any facts that we know respecting it, being liable to be influenced by many varying conditions, all of which should be taken into the consideration of every individual case; and after

all, no theory should be permitted the slightest weight in a particular instance in which it may be contradicted by experience. If an article of food, in favour of whose wholesomeness we have universal testimony, should disagree with a certain individual, its use with that person must not be insisted upon.

SECTION XII. *Cleanliness.* The importance of the excretion from the skin is universally acknowledged, and is sufficiently proved by the amount of the daily perspiration, which was estimated by Lavoisier and Seguin at an average of 1lb. 14oz. in the adult. The necessity of removing from the body of the child any obstructions to this discharge which might be offered by the adhesion of extraneous matters, must be sufficiently obvious. The beneficial action of the physical agents upon the system (of which we shall again speak,) as these agents must act through the medium of the skin, leads us to infer a similar necessity. The accumulation of dirt upon the surface will also be observed to produce very distressing excoriations, and even permanent cutaneous diseases, which, when once established, are often with difficulty removed. With these considerations in view, we therefore feel authorized to

advance the dogma, that too much attention cannot be paid to the subject of cleanliness, during both periods of childhood.

The infant's body, we have already stated, requires to be carefully washed immediately after birth; and the same operation should be performed daily, until the child becomes old enough to attend to its own comforts. Washing should at first be performed with warm water and a fine sponge,—taking care, in the early periods, that no exposure be permitted long enough to produce an impression of cold. As the infant grows stronger, and when the weather is warm, we may gradually lessen the temperature of the water, until at length it may be used nearly quite cold. It is better, however, for the reasons assigned in p. 29, to be in no hurry about employing a perfectly cold bath; and under any circumstances, we would not recommend water to be used without allowing it to remain during the night in the nursery, and so acquire a slight increase of temperature. It is not necessary to use soap, except with parts of the body (as the hands and arms,) which are particularly exposed to the reception of dirt, and with these only occasionally. Brown soap is better than white, as being less likely to cause

cracking of the skin, which is often a source of much annoyance to the child. In all cases, great care should be taken to dry the surface well with a soft napkin, especially where there are folds of skin, as between the thighs, on the front of the neck, arm-pits, &c. A neglect of this precaution will be sure to occasion excoriation, and often troublesome sores; to make matters more secure, we shall do well in fat children, after carefully drying, to dust over the skin in such situations with some fine dry powder, as hair-powder, or starch finely powdered, and contained in a muslin bag. This will absorb the secretions from the surface, and prevent friction. When the infant is being washed, during the first few days of its life, attention must be paid to the condition of the navel string. In ordinary cases, this dries up and falls off between the sixth and tenth days, ulceration taking place at the navel. A small healthy sore remains for a few days longer, which will heal up without any interference, except the daily application of a piece of dry old linen. The linen in which we have at first enveloped the navel string, commonly adheres firmly to it; and if it remains dry, we need not disturb it, but merely raise it gently, so as to have the abdomen underneath carefully washed and dried.

The frequency of the discharges from the bowels and bladder of an infant, requires us to enforce especial care in changing the napkin placed for the reception of those matters, otherwise the skin will be injured, and disagreeable excoriations produced. We are to recollect, that, in the natural state, these evacuations are regularly periodical ; and an observant nurse will soon discover the periods when they are about to take place, and not only anticipate them, but teach the child at a very early age to give intelligible warning of its necessities ; the complaint is often made to us of a child's being dirty, but it may be relied upon that the fault is almost always with the nurse. Indeed, we have no doubt that an orderly education of these functions, commenced in the earliest infancy, will be the means of establishing a regularity of the bowels which will continue throughout the whole of life,—and the more tenaciously, as in such training we are not altering or improving nature, but merely working in unison with her tendency to periodicity. As the child advances, we must continue an unabated attention to cleanliness ; the hair must be carefully combed and brushed ; and the ears, eyes, and all other openings of passages from the interior of the

body, must be kept perfectly clean, as well as the skin itself. By adopting such a line of conduct, we may count upon certainly preventing most of the eruptions upon the scalp or skin which have not been directly communicated by contagion, and of materially diminishing any tendency that may exist to scrofula, marasmus, or rickets.

Mere washing would, of course, have little effect if scrupulous exactness was not observed in making frequent changes of the child's clothes: an infant and young child should have a complete change of dress every day; and the linen of elder children should be changed very frequently, — so often as never to allow the accumulation of the slightest quantity of dirt.

SECTION XIII. *Clothing.* We have already dwelt at sufficient length, upon the principles which should guide us in the clothing of an infant immediately after birth. They are simply to preserve a sufficient quantity of heat, and to do so without setting any restrictions upon the free movements of all parts of the child's body and limbs, or irritating its tender skin. Although the discoveries of Dr. Edwards, to which we have referred at the commencement of this chapter, lead directly to the establishment of the first prin-

ciple now laid down, yet the subject is one of such great importance, and so much mystified by the phantasies of systematic writers, that we shall make no apology for the following long quotation. "It (mortality from cold) is not confined to children whom the misery of their parents cannot guard from the rigour of the weather, but it operates to a great extent, without being either perceived or suspected, in families enjoying affluence, and in which it is believed that the necessary precautions are taken; because cold being relative, it is difficult from our own feelings to judge of its effects on others, and because it does not always manifest itself by determinate and uniform sensations. They do not feel the cold, but they have an uneasiness or an indisposition which arises from it; their constitution becomes deteriorated by passing through the alternations of health and disease, and they sink under the action of an unknown cause. It is the more likely to be unknown, because the injurious effects of cold do not always manifest themselves during or immediately after its application. The changes are at first insensible; they increase by the repetition of the impression, or by its long duration; and the constitution is altered without the effect of being suspected."

We wish we could, as a commentary upon the foregoing passages, adequately depict one of those miserable victims of parental vanity, whose appearance in our streets will sometimes, upon a March or November day, strike cold into our hearts. The cap and feathers set upon, not covering, the child's head, and probably of a colour and richness contrasting mournfully with the blue ears, sharpened nose, and shrunken cheeks, in which cold has assumed the features of starvation, (the short kilt and Highland hose, exposing between them cracked and quivering knees,) altogether require for their description more graphic power than we presume to lay claim to. We hope, however, that we have said enough to call attention to the absurdity of the "hardening" system, as it is called, and to show that a clothing regulated so as to obviate the rigours of our climate, is both demanded by our sensations and sanctioned by our knowledge.

The material of clothing is not, we conceive, of very great consequence. We are rather inclined to discourage the use of flannel next the skin in children; it is liable to injure the tender and irritable surface, and it is more likely than linen to permit the concealed accumulation of

dirt. Upon these accounts, and as children need not be exposed to wet, we think flannel next the skin had better be avoided. The feet should be protected in winter by warm stockings, and sufficiently strong shoes; and when the weather is particularly cold, woollen gaiters should be drawn over the legs when the child is about to be exposed to the air. It has latterly been a good deal the fashion to allow children, when a little advanced, to sleep without night-caps; and this, we think, may be permitted without injury, as the non-confinement of the hair certainly promotes its growth, and in this instance we may safely leave nature to herself.

In every article of dress the principle should be carefully followed, of placing no constraint upon the motions of any part. For the boy, tight-waisted trowsers or braces, and for the girl, stays of all kinds, must be forbidden during the whole period of childhood. The injuries that may be committed upon the organs in the chest and abdomen, by the latter article, are well known to be of the most serious nature; the chest may be completely altered in shape by a continued pressure, and the lungs diminished in their capacity, while at the same time the stomach and liver are

driven from their natural position, and made to press upon the other organs of the abdomen. Derangements of the functions of respiration, circulation, and digestion, follow as natural consequences, and but too often lead to an early grave, or, what is perhaps worse, a life of prolonged delicacy and ill health. After all these risks, the object held in view in the use of stays is not attainable by their means. By active and continued compression upon the lower part of the chest, its shape may no doubt be altered, — the ribs may be brought together, so as to form a narrower circle, and a shape be produced which, however it may be fancied to constitute the ideal of beauty, yet bears no resemblance to the human form, either as it comes from the hands of nature, or exists in the conception of the artist. The only way which we can assist in the production of a really fine figure, is to remove all restrictions, and secure, as far as possible, so free an action of the muscles as will lead to their perfect developement. By such a course, also, we shall best promote the acquisition of a good carriage, which is infinitely more likely to be the result of a perfect balance of the muscles, than of any mechanical support whatsoever.

If the principle of avoiding constraint be held in view in the management of a child's feet, much suffering would be spared in after life. Corns and tumours upon the toes are almost always the results of tight or ill-fitting shoes; and therefore it is highly desirable that we should have these articles so constructed as to protect the foot equally, and not injure it by any undue pressure upon particular parts.

SECTION XIV. *Sleep.* For several weeks after birth, the infant is disposed to sleep continuously, only awaking when pressed by the demands of hunger, and it should certainly be our object not to disturb its repose. As its sense becomes more capable of bearing external impressions, and probably as its brain begins to elaborate these latter into ideas, the waking intervals become gradually longer, and after some time, the chief portion of sleep is taken during the night. Throughout the whole period of childhood, however, more sleep is required than in adult age; and up to the third or fourth year, the child will be disposed, and ought to be allowed to sleep for an hour or two during the day.

In regulating the periods for sleep, as in other matters, we should not forget the periodical plan

almost universally adopted by nature ; and by a little training, or rather by permitting that plan to operate undisturbedly, the nurse will be saved many a sleepless night. Matters should be arranged in the nursery, so as to have no obstacle opposed to the child's sleeping, about the middle of the day, an hour or two before its time of dinner ; it will thus be again sufficiently tired in the evening to ensure its sleeping soundly from seven or eight o'clock, until the following morning. On the other hand, if we defer its mid-day rest, and keep it awake until later, by amusing it, its night's sleep will not commence so early, and (the child being less fatigued,) it will probably be interrupted before morning.

A question is often put to a physician—should the child sleep with its mother, or nurse ? For a month or two after birth, it is unquestionably desirable that it should ; for the infant, we have seen, possessing a low temperature, and but a small power of generating heat, requires to be kept warm by contact with another being. In support of this conclusion, we may allude to the care which is taken by birds and other warm-blooded animals, to preserve heat in their young offspring by the almost continual application of

their own bodies. In our care for the infant, however, we must not forget the mother ; and as her health would be likely to suffer from the anxiety and disturbance occasioned by being obliged to attend to a child during the night, we need not prolong unnecessarily the period of its sleeping with her. At the expiration of a month or six weeks, especially when the weather is warm, the infant, if healthy, will, with due precautions, be able to maintain its own heat, and we may then allow it to sleep in a cradle or bed by itself. A sufficiency of bed-clothes should be employed, and the temperature of the room during the first few months, should not be allowed to fall below 60° F. While we are anxious to keep it warm, we must be equally careful to permit a free access of air to its mouth, which should also be strictly attended to while it sleeps with the mother or nurse.

Cradles. There has been at all times a considerable expenditure of words, and much learned trifling with regard to the question of the salubrity or insalubrity of cradles. It appears to us that their employment is a matter that may very safely be left to the fancy or convenience of the parents. A cradle makes a clean, airy, and, from the facility

of moving it about, a convenient bed, and as such, has advantages over more ponderous pieces of furniture. As to the injury likely to be inflicted upon the brain, by rocking, we have not the shadow of a proof of such a species of motion being ever injurious to the brain of either infants or adults; if it were so, how would the sensorium of the infant escape the effects of the thousand shocks to which it is exposed, and that too in an inverted position before birth; or among adults, what sort of brains would the veteran sailor possess? Throughout all our views respecting the management of children, we wish to avoid speculating or dogmatizing in the absence of any basis of facts, and to lean to popular opinions, whose antiquity we are not ashamed to confess, is in our minds *primâ facie* evidence of their having originated in accurate observation, rather than to affect a pretension to science by abusing upon a theory, practises which possess the sanction of long and general use. We cannot, therefore, agree that "rocking must be utterly disallowed," or that the reason for its disallowance, viz: "Sleep here ensues, because the motion promotes a congestive state of the vessels of the brain, inducing

a degree of vertigo”*—is anything more than a very shadowy hypothesis.

During the whole of the second period, a child should decidedly sleep alone in a bed without any hangings which might impede the free access of air, and in a room as large† as can conveniently be procured; not cold, or admitting draughts of wind, but possessing the means of a free ventilation. As few persons as possible should be allowed to sleep in the nursery, and in winter a fire is an essential requisite, both for the preservation of a sufficient temperature, which should be permitted to fall as little below 60° F. as possible; and also for the promotion of a free circulation of air.

Early Rising. With respect to early rising, we are ready to admit to the fullest extent, the

* Cyc. Pract. Med. art. Physical Education.

† According to Dr. Edwards's views, the advantages of large rooms are not merely owing to the great purity of the air, but he also thinks that the slight agitation of the atmosphere, caused by the space being extended, produces such a feeling of well-being, that the chest dilates in consequence, and admits a larger proportion of air. The agreeable sensation which is experienced on breathing in the country is, he says, principally due to that cause. Henke refers short sightedness to the narrow circle of vision rendered customary in confined nurseries. — *Adolphe Henke Handbuch der Kinderkrankheiten.* Fkt. a. m. 1813.

great advantages, physical and moral, of the habit, but still we must protest against a child being, under any circumstances, curtailed of the due proportion of sleep. The way to bring about early rising safely and usually, is to train the child to habits of retiring early to bed, and then to encourage it to rise immediately upon its spontaneous awaking, but by no means to force it from its bed before the latter occurrence. No definite rules can or ought to be laid down as to the number of hours' sleep to be allowed: one child may require more or less than another; and our only safe guide will be to train it to go to bed shortly after its last meal in the evening, and then to permit it to sleep without disturbance until it awakes of its own accord upon the following morning.

Child's Bed. The composition of the infant's or child's bed, is a matter of some moment; it should be firm and elastic, and of such material as can readily be dried, or altogether changed, when wet. To answer these ends, a small tick, stuffed with straw, forms the best bed for the infant and young child; the straw should be frequently changed, and the tick as often washed and well exposed to the air. For a more advanced

child, a hair mattress answers all purposes. It should be exposed daily to a draught of air; and in summer, placed for an hour or two in the sunshine, when that is practicable.

[*The Nursery.* Agreeably to my ideas of pure air, a nursery ought to be spacious and airy, and on the second or third floor. If the room is small, as is too often the case, the air is apt to be confined, contaminated with perspiration, and loaded with a variety of effluvia. A fire in winter makes it too warm, and if a door or window is opened to air the room it then is made too cold; thus subjecting its inmates in the twenty-four hours to too great a fluctuation of temperature.

Two rooms, the one opening into the other, are preferable to one room; and if both are large, so much the better, both for ventilation and exercise, when the weather will not permit of going out of doors. If there are two rooms there will be an advantage in having a pure air in the sleeping room, and also of having pure air in the morning in the play room. There is some difference of opinion as to the best method of warming a nursery; some recommending stoves, others preferring an open fire. The inconveniences of a stove, are, in my opinion, so great as to entirely

exclude it from nurseries. In a small room it makes too much heat, it rarifies and dries the air, and if any substance is thrown upon it, it fills the air with an unpleasant odour. On the whole, I should prefer an open fire, so protected with an immovable screen, as to prevent the possibility of accidents, from falling into it, or from the clothes taking fire.

Should a fire be continued in the nursery at night? I have no hesitation in saying, that during the first four years the nursery should be kept at about 60 degrees of temperature at night as well as in the day; for children are apt to throw off the bed-clothes and lie almost naked. Even if they sleep in a dress with sleeves and legs to it, it is or ought to be less warm than their dress in the day time: besides, the system is more susceptible to the influence of cold when asleep than when awake. In houses furnished with hall stoves, and where the fire is kept up at night, the nursery would be sufficiently warmed. The general rule should be to keep the nursery at about the temperature above-specified, i. e. 60 degrees Fahrenheit. The windows of nurseries should be furnished with bars across to prevent children falling out, an accident that is not uncommon. The floor

should be covered with a carpet to obviate the effects of falls which are constantly taking place ; and which, when seemingly of no importance, often prove fatal. The carpet should be frequently cleaned. No cooking should be done in a nursery ; no plants should be kept in it ; no superfluous furniture ; but it should be well provided with contrivances to amuse its little inmates, and, if they are of sufficient age, to impart at the same time instruction.— T.]

SECTION XV. *Exercise.* From the very earliest periods of infancy, some degree of muscular motion is necessary for the well-being of the child ; and as Dr. Barlow judiciously observes, “it is advisable to suffer them to exercise their limbs freely, by laying them frequently on a bed, sofa, or carpet, and allowing them to roll and kick at their good pleasure.” This, and being carried about in the nurse’s arms, is all the exercise a mere infant requires.* It may be well to advert to a hazard notice by Dr. Barlow, as likely to

* Nurses are in the habit of rubbing the infant’s body gently with their hand, during the time of dressing. This friction appears to be agreeable to the child, and is probably useful, by stimulating the surface, and promoting the cutaneous circulation. It may be considered as a species of exercise.

attend the practice of tossing, jumping, as it is termed : it is the danger of the child's chest being compressed by the hand of the person holding it, being placed with the thumb and fingers on each side of the breast-bone. That some impression is likely to be made in this way upon the chest of a young infant, appears to us extremely probable, and we should therefore caution the nurse against allowing it to be so grasped. The act of hoisting, itself, appears to be always attended with pleasure to a healthy child ; probably in consequence of that sense of well-being we have already noticed as being produced by agitation of the atmosphere ; and if no risk of a fall be run, it need not be interdicted.

Walking. With respect to the period of the child's walking, we conceive that it should be left entirely to nature. Spontaneous efforts will never be made to an extent likely to produce injury ; but go-carts, &c., should be banished from the nursery, as by such contrivances, the child will be supported, and induced prematurely to walk, before its limbs have acquired sufficient firmness to enable them to support the weight of the body. By these attempts at anticipating the child's strength, its legs may be made crooked, or a still

worse effect may be produced in female children by causing distortion of the bones of the pelvis, the evil consequences of which may be first discovered when the child herself is about to become a mother : such results, however, are scarcely to be dreaded when the commencement of walking is a voluntary act.

In early childhood, the taking of exercise may in like manner be left altogether to nature ; all we have to do is to provide opportunity, by allowing the free and unrestrained use of a garden or field in fine weather, or of a large nursery at other times. The active and restless spirits of the child will then prompt it to do all that is required for its health, and its own sense of fatigue will be the best monitor as to the proper duration of its exertions.

When the child grows into the boy or girl, more consideration becomes due to the management of its muscular system, as the necessity for the dedication of definite portions of time to mental education then first arises. It then becomes an object to economize the hours of exercise, and for this purpose the gymnasium and dancing-school are sought by parents, and recommended by physicians. The latter is generally considered rather as a

place for acquiring an accomplishment than for exercise ; but under a judicious master, who avoids constrained positions and restrictive machinery, it may do excellent service, by giving vent to the buoyant spirits of youth, and exercising almost all the muscles. The gymnasium has certainly been an improvement in modern education, but it too has its evils and hazards. In it also a skilful teacher is required, whose knowledge of muscular anatomy will enable him to contrive means of generally exercising the frame, and whose judgment will constantly interfere to prevent the youth from being carried on by spirit and emulation to an overtaxing of his own powers. When practised to too great an extent, gymnastic exercises certainly stop the growth,* by directing all the energy of the individual towards a development of the muscular system ; if improperly directed, they may also occasion ruptures and inju-

* Any person who recollects the stunted stature of a boy, servant in a gymnasium in this city, will admit the truth of the above statement. We are happy in being able to corroborate our somewhat heterodox notions respecting the *abuse* of gymnastic exercises by the authority of Dr. James Johnson. He also, very correctly, points out their tendency to call into activity diseases of the heart and great vessels in young individuals previously predisposed to those affections. — Vide *Economy of Health*. Lond. 1837.

ries to the joints; but under a skilful teacher, such abuses may be certainly and safely prevented. Neither gymnastics nor dancing ought, however, to supersede the daily play in the green fields, and both parents and children are fortunate, when not called upon by circumstances to sacrifice this, the most healthful and most invigorating of exercises.

Our plan, restricting our observations to the management of childhood, does not warrant us in considering at any greater length the exercises of youth,—a full view of the merits, &c. of the different kinds of which, belong more to the province of the physiologist, than of the child's physician. With respect to the quantity of exercise to be permitted to the child, we can give no rules more definite than to allow the dictates of nature to be followed as to fatigue, and to adopt the views already put forward as to sleep and food; by carefully attending to these latter, regular interruptions to play, or continuance in the open air will, of course, be provided.

It is much to be desired that public gardens should be established in our large towns, to which the inhabitants of all classes, and their children, could have access. They should be planted with shrubs and trees, so as to afford moderate shelter,—and be provided with a large shed, in which refuge might be taken from

the vicissitudes of our variable climate. Most large continental towns have a provision of the kind, as well as numerous private gardens, to which the poorest can resort at no greater expense than the price of a cup of coffee. We know that it will be objected that in our country such places would become scenes of drunkenness and riot; but we are sanguine enough to hope that the opportunity of enjoying temperate amusements in the presence of their fellow-citizens of a better rank, would be appreciated by our artisans, and, ultimately tend to restrain their ferocity, and elevate them in their own opinions. The lower classes of these countries are too much thrown upon the one brutal indulgence of drinking; and it is an absurdity to suppose that the strictest revenue laws will have any effect, except to aggravate the evil. Make spirits dearer, and the labourer will certainly diminish his allowance of food and clothing to procure the only means within his reach of relieving his mind from the pressure of toil and want. Give him an opportunity of being amused when his labour is ended, with music, and of enjoying the pleasure of a public garden in the presence of his superiors, and we hope (perhaps too sanguinely,) that he would be gradually led to lessen his allowance of spirits, in order to enable him to procure dress sufficiently decent to admit of his partaking in those amusements without a sense of degradation.

Exposure to the air. The importance of attending to the habitual exposure of children to the air, is not duly estimated. At no period of life does any cause produce such permanent ill effects, as in the feeble and susceptible age of children. The bad effects of want of pure air and exercise, are seen in children confined to manufactories,

and in those inhabiting a dense and badly ventilated part of a large city. Contrast these with children of the country and we shall see a wonderful difference, — the first will be pale, thin, and weak, the others, rosy-cheeked, plump, robust, and full of activity.

“Infants,” says Dr. Eberle, “ought to be early exposed to the open air. The practice of confining them, for the first five or six weeks, to the close and heated air of nurseries, has a direct tendency to impair the energies of the system, and to impede its healthful developement. The daily enjoyment of fresh air, contributes greatly to the health and sprightliness of infants, and is one of the most efficient preventives against that delicate and sickly condition which is so frequently witnessed in those who are almost constantly confined and pampered in nurseries.”

“Pale countenances, weak eyes, general relaxation of the body, an accumulation of all the inconveniences and sufferings of childhood, — at length consumption, and early dissolution of life : all these are the natural and frequent consequences of such confinement. On the contrary, there is no method by which children may be more effectually preserved against such unfortunate

events, than by permitting them to inhale a fresh and uncontaminated air. Pure air, is indeed most grateful to the feelings of children. After having been carried out but a few times, they evince even at a very early age, a strong desire to return to the open air. While yet in the arms of the nurse they anxiously point to the door, and make efforts to approach and open it. When they can scarcely crawl, they instinctively advance towards that part of the room from which they have a prospect of escaping. Hence, in the bosom of nature, they experience the greatest comfort, and their tears can be stopped in no other way than by taking them out of doors into the free air." — (*Struve.*)

[In the warm season of the year, infants two or three weeks old, may be carried into the open air for an hour, once or twice daily. In damp and cold weather they should be carried from the nursery into an adjoining room that is more open; avoiding currents of air and exposure to windows, &c.

Children should be gradually exposed to the external atmosphere; and I believe it is better in this climate, that children born in the winter and spring, should not be carried out until the commencement of summer; but when once the child

is accustomed to being carried out, the practice ought by no means to be discontinued, even in the winter, provided the child is well, unless in the coldest or most stormy weather. I have recommended children born of delicate parents, to be carried out daily, and have had the satisfaction of seeing them rejoicing in health and strength, and in cold weather their enjoyment seemed to be not the least diminished. Gradual exposure to the common causes that produce illness, is the real philosophical system, of "hardening." Children must be able to bear exposure to the air at different seasons with impunity, or remain forever within doors; and after being shut up for four or five months, if for any reason they do venture out in a cool day, they invariably suffer in their health. I have known tender mothers, more fond than wise, keep their children within doors from fall till spring, with a very few exceptions, not to average once a week: such children have been sick more than others who had scarcely the necessaries of life; for the least breath of air, in passing through a cold hall, playing for a few minutes in a cold room, standing by a window, and the like, and always on going out, no matter how pleasant the weather, in the cold season, they are sure to

be attacked with some affection of the chest or throat.

Let the child then be carried out daily, commencing in the summer ; but let exposures of this kind be, even then, gradual, in young children. First let it be carried into a well-aired and large chamber, for a little time, during a week or so — then let him be carried in the open air for a few minutes, and so on increasing till several hours are spent under the clear canopy of Heaven. As the autumn approaches and the weather becomes cool, let the clothing be increased in quantity, so that the surface of the body shall never be chilled ; and let the practice of going out be forever continued daily, unless in *very* cold or wet weather. Ordinary winter weather should not keep a healthy child in the house.

The country is decidedly the place for children in warm weather ; — there they enjoy an opportunity of play and frolic that is not to be had in large cities. But even in cities, we have now and then a grass plat, and open space where children can be indulged. They should be carefully watched when old enough to run about and play, and not be allowed to sit upon the damp or cold grass, or lie upon the ground, in the shade, or in

a warm sun, or sit any where after severe play, till the perspiration is checked. I have known three little girls in one family to be attacked with croup the same night after playing on the Battery of an afternoon, and riding up town in an omnibus, with a current of air upon their necks, through the open windows of the omnibus. Just in proportion as we accustom the body to be kept warm within doors, are we sure to suffer when exposed to the weather out of doors.

There should be little if any difference in the exercise of boys and girls, during the few first years of their lives; they should be allowed to run and play, roll the hoop, play ball, and engage in all the sports of youth, that their health and strength will allow. Mothers need have little fear that their daughters will not be genteel, if allowed to play out of doors when young. First give them health and let the *body* have strength, and the fond parent will be amply repaid in the increased activity, sprightliness, buoyancy, and vigour of *mind*. A pale delicate girl may interest us inasmuch as she will excite our commiseration; we may feel the same desire to protect and cherish her, that we would a drooping flower; but such are not the ones who most engage the affec-

tions, and enlist the admiration, — who are most likely to be sought for as wives, and who can best discharge the duties of a mother. — T.]

SECTION XVI. *Medicine.* There is no subject connected with the management of children, in which such fatal errors have prevailed, as in the treatment of their bowels; and unfortunately, the influence of certain medical theories has, of late years, tended rather to the increase than diminution of those mistakes. The importance which has, in many respects, very justly, been attached to the condition of the digestive system in disease, has attracted much attention to its state in health; but, unhappily, the great majority of persons fall into the grievous fallacy of supposing that what is useful as a remedy, must also be useful as a preventive; and as the multitude has, in the case of the system in question, but one idea cognate with either remedy or preventive, viz., the idea of purging, the propriety of adopting a regular system of purgation with healthy children, has been admitted almost without question. There cannot, however, be a more dangerous absurdity than such a system; and in proof of our opinion, we shall ask a single question, and bring forward one fact. What is the mode of action

and effect of every aperient drug in the pharmacopœia? Is it not irritation, direct or indirect, of the intestinal mucous membrane, in a greater or less degree; and does it not produce, as a necessary effect, in every instance, a larger or smaller quantity of increased secretion? So much for our question. We presume that no person, but a devoted disciple of St. John Long, will maintain that irritation producing increase of secretion, can ever be necessary in the *healthy* body. With respect to our fact — let any person with regular, or moderately regular bowels, take an aperient, and he will certainly find that after its immediate effects have passed away, a state of costiveness will remain. The tendency of nature to periodical movements, has been interrupted by the production of evacuations at irregular periods, and she requires some time to enable her to recur to the simplicity of her original design.

We wish it to be distinctly understood, that what we are now advancing has no reference to the *use* of purgatives in disease, but solely to their *abuse* during health; and we are the more particular in endeavouring to convey our own views upon the subject, because we know that the impropriety of a needless resort to medicines of this

kind, is not sufficiently thought of by medical men. We have, indeed, too often had occasion to lament over the display of drugs upon the mantelpiece of even a medical man's nursery, not to feel special interest in this matter. The least judicious would surely grieve, did he see an ointment of cantharides rubbed to a healthy skin with no other apparent intention than that it might be followed by a healing salve ; yet, what less absurd is pretended by the accumulation, in such a situation as we have alluded to, of packets of aperient draughts, bundles of restraining powders, and bottles of carminative mixture — all designed for the same unlucky children. This is no imaginary description, we have but too often seen its original ; yet, better and more merciful would it be, towards many of the victims, to destroy them in the birth, than, by such a course, to provide for them the enduring miseries of an irritable mucous membrane.

The bowels of a healthy infant, after the meconium has passed away, should be opened from two to four times in the twenty-four hours. The discharge should be fluid, of a lightish yellow colour, free from any fetid or acid smell, and destitute of lumps, or white curdy matter : it should pass without pain, or any considerable quantity of

wind. As long as these conditions exist, there is no occasion for medicine ; should they be materially deviated from, a state of disease must be present, and will be indicated by other symptoms, the nature and treatment of which shall be considered in the proper place. The infant may, however, labour under a degree of costiveness which can scarcely be called disease, and yet requires medical interference. Having less than two stools, for example, in the twenty-four hours, calls for an aperient ; and so also does a lumpy, or partially solid, condition of the discharge. The medicine, in such cases, should be of the mildest nature. For an infant, from half a drachm to a drachm of fresh castor oil, will generally answer every purpose ; or a dessert-spoonful of a mixture formed of a couple of drachms of manna dissolved in an ounce of fennel or carraway water, may be given, and repeated every hour until the bowels are opened. These are probably the only safe nursery medicines. Calomel, which is but too commonly the first article in the list, should be banished from it altogether, and never given for the mere removal of, what we may perhaps call, healthy costiveness. Its use seldom fails to produce motions of a green colour, mixed with gelatinous mucus ; thereby

showing that it is likely to do much more than what we want, when our object is merely to empty the bowels of their contents. A piece of molasses candy, two or three inches long, and the size of a common tobacco pipe stem, will, almost always, produce an evacuation of the bowels, and may be used for children of any age from one day to fifteen months. It is much better than soap, which is often used for the same purpose.

During childhood, the bowels should be regularly freed once or twice a day, (some difference existing in individuals as to the precise number of their periodical motions.) The discharge should be rather of a darker yellow than in the infant and more solid, but less so than in the adult; it should have a feculent smell, and be free from mucus or lumps of indigested matter. When a healthy child has been treated upon the principles which we have indicated,—under the heads of food, exercise, and cleanliness,—it will seldom require any purgative medicine; but occasionally, from some error of diet, or other accidental circumstance, costiveness will occur, and we must then be prepared to recommend a mild aperient. A couple of drachms of castor oil will usually answer very well.

SECTION XVII. *Light.* The influence of this physical agent in the vegetable kingdom, is known to every one who has observed the bleached appearance of a plant growing in the dark, or has noticed the efforts made by flowers placed near a window, to turn towards the light, even though they may not be led to grow in that direction by the direct influence of the solar rays. Dr. Edwards has made some ingenious experiments to show the influence of light upon the developement of animals ; in the course of which, he found that those which naturally change their form, as tadpoles, were prevented from doing so by the withdrawal of light. In man it is not easy to obtain any information as to the specific effect of light unaided by air and temperature ; but from the facts just alluded to, we are warranted in inferring analogically that light must materially influence developement of form. The infant, therefore, as soon as its eyes lose their extreme sensibility, should be freely exposed to light. The nursery should never be darkened during the day ; and at night, it is better that the shutters should be left unclosed, and no window curtains used.

Too much care cannot be taken in regard to the exclusion of light ; for I believe that the admis-

sion of an ordinary degree of light, is quite sufficient to produce, in a new born infant, inflammation of the eyes ; — at any rate, such a result has, more than once, come within my observation.

SECTION XVIII. *Air.* We hope that the stress which we have laid upon the propriety of keeping up a due degree of warmth in the nursery, will not be interpreted as warranting any measure likely to interfere with a free access of air. Both objects are perfectly compatible. The purity of the air in which the child resides and sleeps should be secured, by providing means for ventilation, in a sufficient number of windows, and a chimney, which latter is absolutely essential to the establishment of a current of air ; and also by restricting the number of individuals residing in the apartment within the narrowest limits. It has been already stated, that a certain agitation in the atmosphere is healthful ; and, therefore, the nursery should be as large as possible, in order to favour motion of the air contained within it. But our attentions with regard to air, should not be confined to the nursery ; the vivifying influence which it has been shown to produce upon the system, by contact with the surface of the body, furnishes us with a reason for the advantages, shown by

experience, to be derivable from an exposure of the child to the open air as freely as possible, consistently with an observance of the principles already inculcated under other heads. It is this vivifying influence which renders the play in the open fields so much more useful than the most carefully directed exercise of the gymnasium.

SECTION XIX. *Temperature.* We have already incidentally said so much upon this subject, that any thing farther would be merely repetition. We may, however, take the opportunity of controverting a very common fallacy, viz., that exposure to heat renders the body more susceptible of the ill effects of cold. Dr. Edwards found, that "in exposing animals to successive applications of cold, their temperature will fall the more slowly, the longer they shall have been subjected to the influence of warmth. Hence, that those who are liable to frequent exposure to severe cold, are rendered more capable of supporting it, by subjecting themselves, in the intervals, to a high temperature." We find, in point of fact, that the Russians, and other northern nations, preserve, by means of stoves, and double doors and windows, a very high temperature in their dwellings during winter, and yet leave them with impunity to pur-

sue their occupations in the open air.* This should make us hesitate in denying access to a fire to a cold and shivering child, under the idea that we should render him, by the prohibition, hardier, and less likely in future to suffer from cold.

[NOTE. It must not be inferred from the above, that the longer a child is shut up in a hot room, the better will he be enabled to bear the cold. The author means that he may live in a high temperature within doors, but should be frequently in the open air. — T.]

* The common winter temperature of houses in St. Petersburg, is 64° F.; while, out of doors, it is frequently so low as 20°. — *Dr. Granville's Travels.*

CHAPTER V.

MENTAL AND MORAL EDUCATION.

THE connection between mental and moral education, and the physical management of children, is so close, and the action and reaction of the one upon the other so constant and influential, that an essay upon the latter would be incomplete, indeed, almost useless, without some notice of the former subject. In turning our attention, however, to this most important of human concerns, we feel considerable embarrassment, both from the difficulties incidental to the subject, and from the narrowness of the limits within which the nature of our present plan obliges us to confine ourselves in our observations; at the utmost we can deal but in generalities, and even with those only in the briefest manner.

In the foregoing chapter, we commenced our consideration of physical education, by supposing an infant to be placed in our hands immediately upon its entrance into the world — we then found

it naked and helpless, in fact a mere vegetative being, with its organs of nutritive life fitted, and ready to act, but altogether dependent upon the care of others for such a supply of material for those organs to work upon as was absolutely necessary to preserve its existence. We endeavoured to investigate the nature of its various wants, and to point out the principles which should guide us in administering to and supplying them. We are now in a precisely similar position with regard to the moral and intellectual system of the young being—it is placed in our hands fresh from nature, we are called upon to make a like investigation into the wants of the system in question, and to consider in like manner the principles upon which we can most safely and prudently obviate them.

The progressive developement of the various intellectual powers in the child has been already alluded to in the first chapter, and to this we must look for our only natural guide in all attempts at the education of those powers. The infant at birth, we have seen, possesses little capability of perception ; some of its senses are still imperfect, and all are, for want of training, unfitted to convey correct information to the mind ; the memory

is as yet unfurnished with facts ; and the whole system is, as it were, a machine ready for work, but from which the moving power is still withheld. Soon, however, the process of learning commences, the senses first receive a knowledge of the agents which act specifically upon them ; the eye becomes acquainted with light, and afterwards notices objects which are presented to it ; the ear is affected in like manner with regard to sound, &c. Subsequently the infant learns to compare the impressions made upon the different senses, and to derive inferences from this comparison ; a familiar example will best illustrate this dawning of intelligence. Thus, the mother's nipple is soon recognised by the sense of sight, and probably the first item of knowledge laid up in the memory is the fact that it is the source from whence nourishment is to be derived ; but it is at a later period that the information conveyed by the eye is corrected by the touch, so far as to enable the mouth or hands to be directed with certainty towards the object in question. After a short period, the power of perceiving external objects is so far educated, and the memory so well stored with facts, the result of observations, that the infant can determine the differences between persons, and be-

comes capable of recognising its mother or nurse. All this is really mental education, and that too of the most important kind ; for what a small proportion does the learning of the schools bear to the knowledge of external agents, and of our own powers and relations, which we must acquire during the period of childhood, and without which we should be incapable of supporting our own existence. What countless observations must be made before we ascertain our ability to speak or walk, and what a wondrous mass of facts must be learned before we understand in the most general way the difference between animate and inanimate bodies ; between the firm and resisting land, and the yielding and unstable water.

We cannot, however, materially aid in the communication of such knowledge ; the demands of the senses for their proper excitements will force it upon the young being ; and we refer to it, here, only to show that the young child who is permitted to use its eyes and ears, is always busily employed in learning, and that the hours of play are not to be considered as periods of intellectual idleness. At what time the business of formally instructing the intellect, should be commenced, becomes an interesting question, and one upon

which much difference of opinion exists; if we begin too early, we shall certainly injure the health; and if we delay too long, we shall often experience much difficulty in restraining the habits of bodily activity, (which in such cases will generally be acquired,) within limits favourable to the necessary exertion of the mental powers. In this, as in most other matters, we shall probably find our best guide, if we carefully observe the plans of nature. She seldom fails to implant in the child a most restless and prying curiosity, which is in reality the appetite for knowledge, and should never be denied its gratification. Books and pictures never fail to attract the attention of very young children; and allowing them to apply it, at their own pleasure, to these, and especially to the latter, is precisely doing for the mind what we do for the body when we place it in the garden or field—it is giving it an opportunity of taking wholesome exercise, which it will cease from doing upon the first approach of fatigue. In the one case the child will, itself, learn to walk and run with firmness; and as its muscles and bones become stronger, it will usually desire to acquire the more artificial exercises of riding and swimming. In the other case, an acquaintance

will be imperceptibly attained with the forms of letters, and of animals and other external objects ; and the uses of the one being gradually learned, and a curiosity respecting the others being excited, a growing desire for information will lead the child to devote more and more time to its acquirement, until at length we shall find it no difficult matter to include among our periodical arrangements, a daily allotment of a short portion for the purposes of instruction. The precise age for adopting this latter arrangement cannot be exactly defined — it must differ a little, according to the strength of the child, but we conceive it should not be before the sixth year. The time to be allotted for instruction is also a matter of moment ; it should never be long enough to produce fatigue, and we think should not exceed two hours daily during any part of the period of childhood.

When considering in the last chapter the subject of physical education, we avoided entering into a detailed examination of the various exercises suited to the developement of the muscular system in youth, considering such a detail as lying rather within the province of the general physiologist than of the child's physician. In like manner we now conceive that a special consideration of the

subjects of mental education would be entrenching upon the domain of the moral philosopher; the *objects*, however, of this process, and the mode of effecting them, may fairly engage a small share of our attention, from their intimate connection with the bodily health of the child. In the first place, then, we cannot but think that a grand mistake is very generally made with respect to the proper object of education, which is commonly supposed to be the storing of the memory with a quantity of verbal knowledge, with a mere crowd of words, to the exclusion of the ideas which those words ought to convey. Thus very young children are mechanically taught lengthy rhymes, or verbose catechisms of geography and history, and their repetition of these by rote is looked upon and exhibited by their parents as a pregnant proof of their precocious understanding. All the time, however, the child comprehends nothing of what it has been repeating, and its memory, which, it must be recollected, has abundant employment during the first years of childhood, in storing up the facts derived from impressions upon the senses; has been not wholesomely exercised, but injuriously fatigued by the exertion. We were much struck with the monstrous absurdity of this

wordy instruction, upon observing its effects in some of the parochial schools of this country, (Great Britain.) Many of these institutions are under the patronage of a society whose inspectors annually visit them, and examine the pupils. The examination chiefly consists in ascertaining how much of the Scripture can be repeated by rote ; and the rule is, that unless a certain number of children be produced, each capable of reciting at least four chapters of the new testament, no remuneration is to be given to the master. The result of this system, as we have repeatedly found from personal investigation, is, that while so much as an entire epistle will, in some instances be correctly repeated, the sense of a single paragraph will often not be comprehended by the child. In the course of a very extended visitation of these schools, we have been repeatedly told by the masters that their own time, and that of the pupils, was so completely occupied with the committing of mere words to memory, that it became utterly impossible to pay any attention to their meaning.

Now, if we reflect for a moment upon the exercise to which the memory of the young child is subjected in laying up a knowledge of its relations to the things and persons which surround it,

and of its duties with regard to this and to a future world, we would surely pause before tasking it with the remembrance of words of which it is unable to comprehend the value.

The acquisition of verbal knowledge, or indeed of almost any knowledge which can be conveyed by words, we do not look upon as the legitimate object of *early* education. The effort should rather be made to instruct the mind in the performance of its functions; and in the mode of doing this, due regard must be had to the order in which the mental powers are developed. The perceptive faculties, for example, being the earliest in play, the instructor's object should at first be to impress upon the child a knowledge of the properties and relations of matter in its various forms; and in doing this, he should, as far as possible, train the mind to habits of correct observation. Materials for thought will in this way be stored for future use, and at the same time an orderly and accurate habit of observing will be impressed upon the mind. As the reasoning powers begin to be developed, these, too, should be trained into their proper action. Comparisons should be instituted between things which have been already the subjects of observation. Gene-

ral laws may be explained, and the child may be encouraged to investigate the causes of various natural operations which it has previously observed. All this, however, must be done gradually, and with caution. The mind of the child, like its body, is incapable of great or long continued exertion, and to subject it to such before its powers are developed, would be to urge it into premature decay. "We must not," to borrow the words of an ingenious writer, "attempt to force their intellectual growth, must not feed them with meat, until they have teeth to masticate it. There is a great deal which they ought to learn, can learn, and must learn, before they can or ought to understand it."*

So much for intellectual education: it must not be forgotten that our consideration of it has been restricted to the first eight years of life, and during that period it should scarcely, in our opinion, be made a matter of formal business, but the foundation of it should rather be laid by such playful exercise of the faculties as we have sketched. — A more important subject, however, is what

* "The Doctor," generally (we believe,) attributed to the pen of Southey.

we have designated as moral education. This commences at the earliest period of infancy, and we almost believe is finished, for good or for evil, before the individual passes the epoch of childhood. In moral qualities, the child is, indeed, father to the man; and the education of these requires the most anxious attention, even during the earliest periods of infancy. No one who is familiar with the habits of infants can avoid observing, that from the moment of birth they display obvious marks of being endowed with active passions and affections, and that, too, in very varying proportions in different individuals. Anger is perhaps the first which is displayed to our notice, but shame and jealousy soon make their appearance, and also some of a more amiable character, as compassion and brotherly affection. Now, we must recollect that these, and all the other elements of our moral constitution, are originally implanted in us, and designed for good. "It is very true," says Dr. Chalmers,* "that the anger, and the shame, and the emulation, and the parental affection, and the compassion, and the love of reputation, and the sense of property, and the

* Bridgewater Treatise, vol. i. p. 106.

conscience or moral sense, are so many forces of mechanism, which, if not thus furnished, and that too within certain proportions, would run into a disorder that might have proved destructive both of the individual and of the species." We shall give an example of our meaning, and again in the words of the pious and eloquent writer just quoted. "The more *patent* view of anger is, that it is an instrument of defence against the aggressions of violence or injustice, and by which they are kept in check from desolating, as they otherwise would, the face of society."* In this way the passion of anger, (which we take merely as an example,) is not to be considered as in itself evil, which is too often the view taken by superficial observers, but it is to be looked upon as a necessary constituent of our moral system, without which we should be unable to feel a suitable abhorrence of sin or of injustice : it is only the improper direction of anger, or its indulgence unrestrained by the other elements of our moral constitution which is productive of evil. In like manner, all the passions and affections are designed for good : and we conceive, therefore, that our

* Op. Citat. p. 203.

object in morally educating a child should be, not to obliterate those forces of his moral mechanism, but to guide them into a system of harmonious operation with each other. Now, how is this most likely to be accomplished? Is it not by cultivating those affections which are obviously good, and by their influence regulating the violence of others, whose unrestrained indulgence would certainly lead to evil? Thus, the anger even of a very young infant will be best restrained, not by a display of anger upon the part of its parent, but by a steady exhibition of parental affection, and by showing it a practical example of calmness. Causes likely to excite irritability should also be carefully removed from the infant, as a habit of indulgence in anger will readily be acquired before the counteracting affections can be correspondingly excited.

As the child advances in age, new passions and affections call daily for our notice; and as its mental education simultaneously progresses, and it is constantly acquiring an increased knowledge of external objects, we are furnished by this progress and knowledge with additional and powerful instruments for influencing its moral nature. He displays but a small acquaintance with the

human heart, who hopes by an apothegm to extinguish the passion of jealousy, or to repress the cravings of ambition by a dry statement of the unquestionable truth that all is vanity. But still the natural feeling of emulation, which is the commencement of jealousy, can be restrained within just and wholesome limits, by calling into play the family affection, and the compassion, which are equally original elements of the moral constitution; and the love of reputation may be prevented from growing into a dangerous ambition, by encouraging, along with the affections just mentioned, a developement of the conscience or moral sense, and of the sense of property, both of which we conceive to be inherent in our nature.* The child may in this way be practically shown, that while a generous rivalry in its sports and lessons is not forbidden, still that benevolence and natural affection for its brothers and playmates teach it to stop short, in every instance, of carrying this so far as to wound the persons or feelings of others; and, again, that while it may be lawfully anxious to obtain credit and praise from its teachers, still that its sense of property forbid it to seek for either by making an unpermitted use

* See Chalmers in Bridgewater Treatise, *passim*.

of the labour of others, and its conscience peremptorily interdicts any advantage which might be attained by the assertion of an untruth. In this way we avoid overtaxing nature ;—we do not vainly denounce, or attempt to obliterate, forces which are as much part of our moral frame as hunger is of our physical ;—we do not tell the hungry man he shall not eat, because gluttony is a vice, but we furnish him with a guide as to the quantity and quality of food which is wholesome and necessary. Above all the restraining principles (if one may be preferred to another,) we would be inclined to endeavour with most care to bring into activity the sense of property, and conscience or the moral sense, as Dr. Chalmers terms it. Upon these the well-being of society mainly depends : if not encouraged in early childhood, they are of all others the most likely to remain dormant ; but if once well-developed in the child, they require a long course of vice for their overthrow. The progress of mental knowledge may be brought into useful operation in our work by directing the growing faculties of the child to such portions of the general plan of nature as may be within its comprehension. Admiration for the skill of Providence may, at a very early

age, be excited by calling attention to the more obvious adaptations of means to ends in the forms of animals, in the benefits conferred by the mode of distribution of water over the earth, &c. &c.; and a perception of beauty can be called up in a very young mind, by the colours and fragrance of flowers, and the influence of music.* From all these the watchful parent can derive practical lessons of humility and love, which would be sought in vain in the maxims of a dry morality.

* We were sorry to observe that Dr. James Johnson in his able and justly popular work upon the "Economy of Health," has, in his desire to prevent the *abuse* of music, been led away from a fair appreciation of its *use* as an agent in moral education. We would heartily join with him in discountenancing the system which leads to a perilling of the health of our young ladies for the purpose of converting them into opera singers; but this is altogether different from the wholesome use of music as the proper language of the milder, and the tamer of the fiercer qualities of our nature, as the gentlest, and yet most enduring of our social bonds. How tenderly must the recollections of the family circle be directed to an absent son, or brother, when his loss to the domestic concert is nightly experienced, and how much more joyously is his return welcomed when his voice is once more heard at home! So far, perhaps, the advantages of music are generally appreciated, but its suitableness as an agent for the moral education of the poor is, we regret to say, totally overlooked in this country, and yet the education which the poor man chiefly requires is to have his fierceness tamed, and his gentler affections called into play—to

To work out in practice the principles which we have attempted to lay down, we are well aware, would require qualifications, on the part of the parent or teacher, of no ordinary kind ; but the nearer we can approach to them, the more likely

be bound to his fellow-man by partaking in a common source of enjoyment rather than to be divided from him by that jealousy which must exist between the poor and the rich, whenever the intellects of the former are educated without simultaneous instruction of their moral nature. The poor man also, as well as the rich, requires recreation after labour, a fact which appears to be totally forgotten by our philanthropists, who, while they enjoy the indulgences of their comfortable homes, can see no excuse for the intemperance of the hard-worked labourer, or artisan : whiskey, however, is merely resorted to as the only attainable means of relieving the exhaustion of protracted toil, and the first effectual temperance institution will be the placing within reach of the poor, some tranquilizing and social amusement. Those who have mixed in the society of the lower class of beer-houses and gardens, in the North of Germany, will not deny that music may be made to answer this end.

Many will admit the justice of the foregoing views, but will ask how are they to be attained ? We answer — let those who have the direction of the great experiments of education, at present in progress, abandon polemical controversies, and seek for guidance by examining the merits and demerits of systems which have been tried in other countries. If they inquire into the state of the Prussian and Saxon schools, and their enviable results in the happy condition of the people of those nations, they will, or

are we to produce the sound mind, which we feel confident is fully as certain of producing, as of inhabiting, the sound body.

Our limits forbid us to enter at greater length into this most interesting subject ; but one word we must add, to prevent misconception. We have not yet spoken of religious instruction as a part of moral education, because we have been considering the management of the moral faculties as they exist in the natural man ; we are deeply convinced, however, of its necessity and importance ; and we are firmly of opinion, that in no way can we promote the interests of an individual, both as regards himself and his relations with society, so effectually, as by encouraging in him early habits of religious observances ; in no way can we so surely call forth and strengthen his best affections as by early setting before his view the living truths of revelation.

we are much mistaken, change their course. They will probably be content with *training the minds of the children to work* without burthening those who are to live by manual labour, with much intellectual knowledge ; they will especially try to regulate the moral nature of their pupils, and they will, we hope, make music as it is in Saxony and Prussia, a part of the system of every school.

As general conclusions from the views we have put forward, we would say, that during childhood (i. e. until the eighth year,) education should have for its main object the cultivation of the moral qualities; and that, during the greater portion of the same period, the intellect will be pretty fully occupied in obtaining such most necessary information as can be acquired by the use of the senses without much *formal* assistance, and therefore that schooling, properly so called, should not be commenced, at the very earliest, before the termination of the sixth year. Until then, the confinement of a school is injurious to the bodily health, and not required for the mental improvement of the child. In coming to these conclusions, we may appear to undervalue those useful inventions of late years,—infant schools. We conceive, however, that they have a specific purpose, and that, when well regulated, they effect that purpose usefully, viz. : to take charge of the children of the poor in large cities, when their parents are engaged in their daily labour, and unable to attend to their wants. In this view, their value is inestimable; but still they are but the substitution of a less for a greater evil; all the ties of social affection, of well-regulated obedience, and of mu-

tual co-operation, which constitute the bonds of society, are learned by the infant in the domestic circle, and can be learned nowhere else ; and if we can leave it in the care of an intelligent mother, and in the society of its brothers and sisters, we should not send it to an infant school, where it is governed by and associated with strangers, with none of whom it is likely to have natural sympathies. What the child may be expected to gain specifically in these schools, beyond mere protection, can only be regularity of habits, which certainly is of great importance, but not so great as to countervail the advantages of a well-regulated domestic circle. For the reasons we have advanced, we conceive that infant schools, though most serviceable in large cities for the poor, are totally unfitted for children of more opulent parents. With the latter the system might be characterized, as Dr. Chalmers has done another artificial system, as “a taking to pieces of the actual framework of society, and reconstructing it in a new way or on new principles, which is altogether fruitless of good, and often fruitful of sorest evil, both to the happiness and virtue of the commonwealth.”

Since writing the above, we have had the pleasure of reading an interesting little treatise on Infant Education, published in Chambers' Educational Course. Edinburgh, 1836. At the same time that we are most gratified to find that the principles which we have attempted to lay down for early education, are those sanctioned by the experience of Mr. Wilderspin and others, still we cannot change our opinion with respect to the class of society for which the infant school is really adapted; and we must be excused for preferring the family circle, as a place of education for the very young, in all cases in which it can be made use of without important sacrifices. We do not agree that the element of *numbers*, as Messrs. Chambers assert, is indispensable for exercising the social virtues of the child, particularly of the female child; but we acutely feel, that a tenderness, not less than parental, is required to keep unceasingly awake the sense of responsibility which ought to be felt by the infant's instructor: and we conceive that this responsibility is intended, by a wise Providence, not merely for the child's advantage, but also for a strong and wholesome check upon the morality of the parent, which it would not be beneficial to society to weaken by division, in any case, admitting of its being left whole and undivided.

CHAPTER VI.

TEETHING.

THE period of dentition, or teething, is one fraught with no little anxiety to the mother, and with no less of danger and suffering to the child.

The teeth first make their appearance about the sixth or seventh month ; it may be sometimes earlier, but is often much later ; and the process is completed, generally, within eighteen months.

The number of the first set, or milk teeth, is twenty. They generally make their appearance in pairs, those in the lower jaw coming first. They are, four incisors, or single teeth, in each jaw ; two canine, or eye teeth, as they are called, in the upper jaw, and stomach teeth in the lower jaw ; four molars, or double teeth. In the second set, there are four grinders, or double teeth, in each jaw, additional, and two wisdom teeth ; making, when the set of teeth is completed, thirty-two of the whole.

“This process is a natural one, and does not necessarily lead to diseased action ; but such is

liable to occur in consequence of the irritability of the infant constitution, which is, at this time, particularly remarkable, as well as the proneness to sympathetic disturbance. Some irritation must attend the passage of the tooth through the gum ; and this is caused both by the pressure of the crown of the tooth against the parts above, and of the root on the dental nerves below. Hence arises pain ; and to this we are to attribute, as a chief cause, the morbid sympathies that accompany dentition. The degree to which these may amount, however, depends more upon the state of the infant at the time, than the extent of local irritation caused by the tooth ; for we see what little suffering attends *cutting* the large double teeth, compared with the small ones which preceded them, at a time when the susceptibility of the infant constitution was at its height."

The symptoms that attend teething, are well known to every mother. They are, increased flow of saliva, thirst, gums more or less swollen, hard, hot, and tender to the touch. The child is fretful, — peevish, — has sudden fits of crying, — starts in its sleep, — screams as if frightened by some dreadful dream, — has a disturbed sleep, — flushed cheeks, &c. No doubt many of these

symptoms are the result of pain in the head from nervous sympathy. The bowels are sometimes obstinately costive, not being evacuated for several days, without assistance; frequently diarrhoea attends, or is alternated with constipation.

The most obstinate, and most frequently, fatal cases of disease with which I ever met, in children, have occurred during teething. Children are sick at this period of their lives, independently of dentition; so that it is wrong, as is often the case, to attribute all diseases, at this time, to teething, and to wait for the child to get well without having recourse to medical aid. A few days' neglect in such cases, may seal the fate of a lovely child, and prove the source of years of subsequent and unavailing regret and self-reproach to the parents.

"Convulsions," "fits," "spasms," as they are commonly called, are the frequent attendants upon teething. "The convulsive movements are often confined to mere twitchings, or spasmodic motions of the face, eyes, and arms; and, in such cases, are not as dangerous as is commonly thought. In no case, however, are they to be neglected; for great danger attends them when they become general, violent, and frequent.

Death may take place suddenly, as if by apoplexy ; or an incurable paralysis (palsy) be the result, as we have more than once witnessed.

It must be remembered that these spasms, however slight, even when they affect only the hands and fingers, are indicative of more or less affection of the brain, or spinal marrow ; and that when they have once occurred, they are likely, though not certain, to be repeated. Frequently, there is sufficient warning of their approach given to prevent an attack ; and when we are apprized by the restless nights, grinding of the teeth in sleep, starting up suddenly in sleep, flushed face, and costive bowels, that danger is threatening, there should be no delay in calling in medical advice : or, when there should be present any other disease, bowel complaint, vomiting, or the like, it is much the safest to consult the family physician. Whatever disease does occur, during the period of teething, is almost certain to be aggravated ; and whoever waits for the unaided operations of nature in these cases, may live to most bitterly lament his delay.

I would not, willingly, add one particle to the anxiety that some mothers feel at such times ; but all are not alike in knowing, and consequently,

feeling, the danger:—to such I now address myself, hoping that timely caution may not prove unavailing.

I frequently meet with objections to scarifying the gums, when that operation is indispensable, "*because it makes the gum harder, and the tooth is then longer in coming through.*" This is altogether an erroneous notion. A cicatrix or scar, will always give way sooner than the uncut gum. The reason for this popular error is this: teeth, occasionally, require to have the gum cut several times; and, because the tooth advances slowly, it is believed that it is retarded by the hardened gum.

Diseases of the skin occur frequently, during dentition; and it is curious to observe, that an eruption of a peculiar character, and appearance, will show itself with the cutting of almost every tooth. These eruptions are to be treated with the greatest caution; or, in other words, no application should be made except by medical advice. They are the result of a salutary effort of nature to maintain the internal and vital organs, in a state of health.

It is as much impracticable, as it would be out of place, for me to prescribe the medical treat-

ment to be pursued through the whole course of dentition ; my object being rather to make known the existence of danger, and to point out the manner and time to avoid it.

CHAPTER VII.

CHOLERA INFANTUM, OR SUMMER COMPLAINT.

THIS is a disease which annually destroys many children, in large towns, and crowded cities ; and is confined to children from two months to two years old, though a majority are in the period of their first teething.

Professor Eberle says, that, during a practice of twelve years, in the country, he saw but two cases of this disease. He considers "there are three causes whose concomitant influence is concerned in the production of this variety of cholera ; namely, high atmospheric temperature, the contaminated air of crowded cities, and the irritation produced by teething."

There is, in my opinion, another, and quite as efficient a cause, operating to produce this disease, so much dreaded by mothers in this city, and one which the Professor has not mentioned ; and it is to point out this cause, that my remarks on this disease are introduced.

It has been before shown how, by various cau-

ses, the milk of a mother, or nurse, can be rendered unfit for nourishing a child, — that when it becomes thus altered in quality, it is capable of producing the worst effects in the innocent nursing. Now the “high temperature” and contaminated air of “crowded cities,” are operating as well upon the already exhausted, and delicate mother, as upon her child. The system becomes enfeebled by increased perspiration; the sleep is broken at night; the appetite is impaired, and digestion is imperfect. Added to these causes, there is, almost always, an indulgence, to a greater or less degree, in fruits and vegetables. In the hot season, there is always less appetite for farinaceous and animal food, than in the other seasons; the system then demanding a more succulent and cooling diet. But, an indulgence in such diet, we see affecting adults unfavourably, often, when it does not pass the bounds of moderation. The character and quality of the milk, we have also seen to depend upon the material of which it is made; so that all the above causes are brought to bear directly, or indirectly, upon the infant’s food, to make it unwholesome; which, with the superadded cause of irritation from teething, render it not at all surprising, that cholera infantum should be a frequent, and often fatal, disease.

This view of the subject explains to us why this disease is of more rare occurrence in the country than in the city. Mothers in the country have, in the first place, more strength of constitution, and a better stock of health, than mothers in crowded cities, and are, hence, less affected by the ordinary causes of disease ; and are less exposed to the causes which we have mentioned as affecting mothers who reside in cities. The fruits and vegetables which are eaten in the country, are of a better quality than those procured from our markets ; if not of better quality, they are at least fresher and less likely to do injury. So that, on the whole, the child that is nursed in the country, stands many more chances of escape from the "summer complaint," than one nursed in a large city.

I believe this to be a more efficient cause of the disease in question, than all others ; and if it is admitted to be so by those more intimately concerned, the remedy, or rather the preventive, which is quite obvious, will immediately suggest itself. I believe this cause has been too generally overlooked by medical men ; and there is no doubt, that, if it had been duly estimated, and

measures adopted accordingly, many, who have fallen victims to this oversight, might have been preserved.

The proper course, under this view of the subject, to be pursued by one rearing a child at the breast, who does not uniformly enjoy good health, in the city, is, when circumstances will permit, to seek a healthful location in the country, during the heat of summer. Too great attention cannot be paid to diet; and if fruit and vegetables do not perfectly agree, or if symptoms of illness show themselves in the child, the diet of the nurse should be confined to animal food, and farinaceous articles. If the health of the mother continues delicate, — if her appetite is capricious, and digestion not well performed, a healthy wet nurse should be procured; or when this is impracticable, the child should be weaned. It is better that it should take its chance on a variety of artificial food, than be confined to a single article, which is most assuredly a principal cause of its sickness, and which may be fatal in its consequences. The limits of this work will not allow me to dwell longer on this topic; but it is hoped the hints here thrown out may not be without their value to an affectionate mother, ever ready to sacrifice her own comfort to the good of her offspring.

CHAPTER VIII.

THE RESPONSIBILITIES AND DUTIES OF A NURSE.

THERE are few persons in any occupation, whose duties are more arduous, or whose responsibilities are greater, for the same length of time, than those of a nurse who devotes her whole energies to administering to the comforts of a lying-in woman. To her, in a great measure, are entrusted the life, and subsequent health, of a mother and child, and the happiness of those depending upon them. The greater the value then of the trust committed to her charge, the more important it is that it is faithfully and wisely executed.

The physician may do his duty ; he may do all that is within his power, by giving advice to the patient, and instruction to the nurse ; he may enjoin their compliance by the force of argument, and the persuasion of eloquence ; and yet, when his back is turned, if the nurse chooses to be a little obstinate, a departure from his precepts in a

small particular may cost the patient her life. The directions of a physician must be given sometimes in short-hand ; other patients are requiring his immediate attendance, and he has not the time to give a series of reasons for everything he may recommend ; and, consequently, a self-sufficient nurse, who cannot, of course, see and appreciate his reasons, takes it upon herself to call in question the wisdom of his counsel ; and as such nurses always have some real or fancied case to quote, to support them in their rebellion, the patient is too often persuaded to follow the leading of a blind guide. When the nurse gives advice counter to that of the physician, the patient, or her husband, ought to remember that one or the other must be wrong ; and that the advice of both cannot be followed without injury. The duty of the patient then becomes manifest ; either she must dismiss her physician, or nurse, or exact a compliance, on the part of one, with the advice of the other.

What practitioner has not had his injunctions disregarded in respect to diet, to sitting up, to walking, &c. ? And who has not seen the worst consequences ensue from such indiscretion ? There is now and then discovered a *longing* almost on the part of a nurse ; and I am sorry to say, it

is met with also in the patient — *to cheat the doctor* — to disregard his injunctions ; and then, if sickness follows, to conceal the fraud, or equivocate when questioned in relation thereto. If no evil follows, it is considered a great achievement — quite a Waterloo affair — and is boasted of with an air of triumph. Success in these attempts at deception embolden the perpetrators to a repetition of their audacity ; so that, sooner or latter, some one confiding in the integrity of her nurse, falls a victim to these rash and conceited experimenters. Where one escapes with impunity, another may suffer death.

At the time these pages were being prepared for the press, the writer had a patient who suffered severely from convulsions during labour, who was subsequently in a precarious state, and whose life was considered in jeopardy. She had several relapses from her own imprudence ; but, at length, promised the most implicit obedience to my advice. Her situation was such that the greatest danger attended her sitting up ; and therefore, to make her feel and understand the importance of keeping her bed, I told her *on no condition* to rise from it, even if the house should be on fire ; to wait till the last minute, and see if assistance could not be

procured to carry her ; these injunctions were repeated again and again ; and at the same time, it was made imperative upon the nurse to give her only some simple gruel, or something of a like character. On my next visit, the patient was thought to have been dying just previous to my arrival, and a messenger had been despatched for me in the greatest haste. On inquiring, it was ascertained that on the evening before, the nurse had urged the patient to rise while her bed could be made, but she was unable to sit, and was hurried back to her bed ; from that time she was much worse ; and although the nurse was expecting her to die at almost every moment, she was in the very act of preparing a *fricazeed chicken*, which she intended to force her to eat, to strengthen her. It may be readily supposed how much longer the nurse continued her services.

There are many times when patients are suddenly taken worse, so that a nurse is called upon to do something with the hope of affording relief ; they ought, therefore, to make themselves acquainted with the accidents most likely to happen, and the common remedies most suitable to be applied on such occasions. If they omit to do this, they neglect an important duty ; but when they

act according to the best of their information, even if they fail to do the good they aim at, the *will* should be taken for the *deed*.

The fault of nurses, next in importance to disregarding the physician's advice, is annoying, and alarming the patient with tales of suffering and distress. A perfect silence on such matters should be observed. No good can possibly come of retailing stories of this kind. But if the patient herself even voluntarily alludes to them, it should be the nurse's duty to lead her mind to some more agreeable subject ; and if the patient's mind dwells upon a case of suffering analogous to their own, when the danger was greater than her's, the nurse should encourage her with one of an opposite character, and counteract by her own influence the evil that the patient may bring upon herself.

There is a fault too prevalent among nurses, and of which I have often heard complaint ; and that is, too great a propensity to talk. Lying-in-women are not usually fond of much talking ; and it is generally not good for them. Nurses talk with the best intention ; they do it to amuse their patients ; not once suspecting that their conversation may be an annoyance, instead of a pleasure. The patients themselves, for fear of doing violence

to the kindest feelings, will not express dissatisfaction ; but they do sometimes make grievous complaints to their physician. Nurses ought to study the disposition and temper of their patients ; and when they can amuse by an anecdote, or encourage by the narration of cases, they ought, by all means, to do so. A cheerful countenance, pleasant tone of voice, and kind manner, and readiness to render any service, and a proper degree of watchful anxiety, both for the mother and child, will endear a nurse to mothers, and will ensure their being held in grateful remembrance for ever after.

One thing a nurse must never forget, that is, to be neat in her personal appearance ; and scrupulously so in whatever she does for her patient, particularly in preparing all her articles of food and drink.

CHAPTER IX.

HEREDITARY DISEASES.

It is a general law of nature, that like shall produce like : that the progeny shall resemble the parents. This law prevails, not only in the animal, but throughout the vegetable kingdom. By virtue of this law, many of our most valuable animals have been brought from a wild and fierce state into one of docility and domestication, and from a small and stunted, to a much increased size ; many of our most beautiful plants and flowering shrubs, our most delicious viands, and most valuable vegetables and grains, have been brought to their present state of perfection, from being comparatively unsightly and valueless herbs.

If like produces like, how happens it, it may be asked, that the product is so unlike the original ? All the animals, plants, and vegetables, that are so seemingly unlike their originals, yet retain all their distinctive specific features ; they are the same in

reality, but by continued improvement brought to greater perfection.

There are, however, what are called freaks of nature, sports of nature, &c. ; they are deviations from her uniform course,—exceptions to the general law. They are seen in both the vegetable and animal kingdom ; and when the species is propagated from *them* they may, and generally do, produce *their* like ; and hence the curious and multitudinous varieties of some of the flowering shrubs, and domesticated animals. Acquired or accidental peculiarities in the human species are transmitted by the same law ; which is curious in its operations. For instance, an acquired peculiarity may be regularly transmitted to all the male members of a family, or to all the females, or to one-half of the children of either sex, or to one or two only of a large family. They also disappear in one or two generations to reappear in a subsequent one. Thus, I am acquainted with a gentleman whose mother had two thumbs on one hand—none of her children had the additional thumb, but a son of the gentleman, one of the third generation, has the supernumerary member.

The question is often asked with reference to

hereditary peculiarities, why is it, if there is such a thing as transmission of resemblances from parents to offspring, that the children of distinguished men are often not above mediocrity for talent. This question is of easy solution, and by this very law of transmission. It must be remembered that *both* parents are concerned in this matter; and that the progeny may resemble either, or both; or it may resemble one in the mental capacity, and the other in personal appearance; or its mental capacities may be an average of both parents. Now it so happens that very distinguished men do not often have wives equal to themselves in intellect; consequently, the children, by the laws of transmission, are as likely to resemble the mother as the father.

This plan of transmission holds true in regard to diseases; peculiarities of temperament, constitution, or predisposition, being transmitted from parent to child; so that it has become familiar to all to hear mention made of "family diseases," or "family complaints." It is not often that the disease itself is transmitted — the child is not often born diseased, but inherits those peculiarities which constitute a susceptibility to the disease of its ancestors, which may be developed by the ap-

plication of slight causes. The hereditary predisposition may, indeed, develop the disease without any other additional cause, if preventive measures are not taken. When there are no counteracting influences used, we see whole families one after another, afflicted with the same disease; and when that is mortal in its nature, one after another at about the same age, is swept away.

Many of "the ills that flesh is heir to" may be considered hereditary, or pervading particular families; and in fact, I believe that most of the diseases incident to humanity are propagated by transmission. Popular opinion confirms this; for nothing is more common than to hear people speak of the necessity of a doctor's understanding their constitution. So far their notions are correct, or at least they are founded in truth; but they err when they suppose that a physician, to whom they are strangers, may not soon so well acquaint himself with their peculiarities as to do them no injury by his prescriptions. It is the business of a physician to make himself acquainted with individual peculiarities.

The diseases that may be considered as most peculiarly hereditary are scrofula, one form of which is consumption, apoplexy, palsy, convulsions, various affections of the head, epilepsy, hysteria,

affections of the chest, such as consumption, inflammations, &c. gout, rheumatism, cutaneous diseases, such as what is commonly called salt rheum, &c. In fact, an attentive observer will discover a similarity, if not a striking resemblance, in the diseases of a numerous family, and more particularly if the same temperament is strongly marked. To illustrate this, I may remark, that I knew a family of seven daughters, five of whom died under similar circumstances soon after giving birth to their first children.

Insanity is a disease that is also hereditary ; and there are numerous instances of several members of a family, at about the same period of life, becoming insane.

Of what practical value is it to make known these unpleasant truths, it may be asked, to those who are likely to inherit some of these diseases ? Till the existence of an evil is fully known, it will certainly not be remedied ; and when once known, an inquiry into its causes is instituted, and the best means sought for to effect a remedy. A timid person need not, necessarily, be overcome with alarm on being warned of imminent danger, especially if, at the same time, a way of escape is pointed out. Other causes, besides transmission,

may contribute to the developement of hereditary or family diseases. Among these may be reckoned, as the chief, the same circumstances in which the different members of a family are placed, and the same influences to which they are subjected. Thus, they may all be accustomed to the same way of living, use the same diet, follow the same occupation, be exposed to the same climatorial influences, &c. For instance, a man is predisposed to apoplexy ; his profession is one that engages the intellect and passions more or less, and instead of avoiding the causes which excite the disease, he is constantly exposed to their operation. He dines heartily, indulges in wine, perhaps only to a moderate extent, keeps late hours, and eats late suppers. His sons, if he have any, and such cases are very common, are quite likely to follow the example of their father ; he dies of apoplexy, and they, without knowing it is in their own power to shun his fate, fall victims to the same disease.

By the same law, by which diseases are transmitted, they are also increased, though not in the ratio of the increase of population. The spread of family predisposition is counteracted by improved medical science, by intermarriages, and

by other causes, but still they do increase : for the children of diseased parents, other things being equal, have the same power of transmitting their predisposition to the next generation, that their parents had of communicating theirs to them.

When the predisposition to disease exists by inheritance, the developement of the disease may be prevented, frequently, and, unless the predisposition is very strong, in a majority of instances : but, to do this, we must commence our preventive course with the infant.

All the preceding advice with regard to mothers, as well as to the management of children, has been given with particular reference to the prevention of hereditary diseases generally ; and with no further arguments to enforce these precepts, if they were literally followed, one half the deaths, from hereditary predisposition, would be prevented. But, as each disease requires some particular Hygienic precept, inasmuch as some are excited by different causes, we will notice some of the principal complaints that are considered hereditary, and point out the best method to prevent their developement, and to eradicate the predisposition ; and we will begin with one which numbers more victims than any other which afflicts the human family.

SECTION I. *Consumption, and Scrofula in all its forms.* This, as every body knows, is a disease of the lungs, and is generally considered as certainly fatal. But for the comfort of those concerned, I may here state, on the authority of the best writers on this disease, that it has been often arrested in its first stage, and never after re-appeared ; and that sometimes, when patients have been, to appearance, on the verge of the grave, the disease has been cured. It prevails, to a great extent, causing about one-fifth of all the deaths in this city, including foreigners ; and destroying one in nine of the white natives of the United States, who die in New-York.

The whole number of deaths reported, from consumption, from 1805 to 1836 inclusive, is 24,883 (twenty-four thousand, eight hundred and eighty-three.) If the lives of one half of these had been prolonged, perhaps for years, how incalculable would have been the blessing ; and how great a benefactor would he be, who would disseminate the precepts by which such a boon could be acquired.

By a published report of all the interments in this city, from the year 1805 to the present time, it appears, that from 1805 to 1815, there was one death from consumption to every 183 inhabitants:

from 1815 to 1825, the ratio was one to 189; and from 1825 to 1835, it was one to 178. It is impossible to get at any accurate result, so as to determine the increase of the disease with precision, so that we rest satisfied with a bare approximation to the truth.

Sir James Clark, of Great Britain, physician to the Queen, states, in his invaluable work on consumption, that in London, the deaths from consumption increased, from 1700 to 1750, from four to six in every 1000 of the population; since which time, it seems to have remained stationary, although he does not place implicit reliance upon the reported bills of mortality.

Notwithstanding the boasted healthfulness of the climate of London, Dr. Clark states that the number of deaths from consumption, amount to *one-third of the whole mortality*; while the deaths from the same disease in this city, are about *one-fifth of the whole mortality*. "Although we are not acquainted with any direct means of correcting the constitutional predisposition to consumption, there can be no doubt, that in many instances we have the power of effecting it indirectly.

"By placing the predisposed child in the most favourable circumstances, as regards those agents

which exert a constant influence on the health, such as food, air, exercise, &c. — by removing functional derangements as they occur, and especially by maintaining the digestive organs, in a state of integrity, we may improve the constitution, so as to enable it to overcome the hereditary predisposition. By the judicious application of these means, I am persuaded that the lives of a large proportion of children, born with the predisposition, might be saved; and it is not, perhaps, beyond the truth to say, that, under the present system of management, five-sixths perish.” — (Sir James Clark on Consumption.)

What is true of consumption, is true of all hereditary diseases; and I believe it is not too much to say, that, with proper precaution, the lives of “five-sixths” of those who die from hereditary predisposition, might be preserved.

Suckling. Mothers of a strongly marked scrofulous constitution, or, to speak more plainly, those of a consumptive family, unless the health at the time, be perfectly good, should on no account nurse their own children. As much as it is their duty, at other times, to supply their children with nourishment from the maternal fountain, in the same degree is it *now* incumbent on them to forego this

happiness. A young, healthy nurse should be provided, and she should be selected agreeably to advice given in a former part of this work.

The child should take no other nutriment than the breast milk, during the first six or eight months ; and after that, if he is rather delicate, pale, and what is called feeble, plain animal broth may be allowed once or twice a day. After the double teeth have made their appearance, he may have a reasonable quantity of tender meats, fruits, and vegetables.

If, on the contrary, the child is ruddy, rather robust, strong, and healthy, animal food should be withheld, and a farinaceous diet, only, permitted.

Bathing, Air, Exercise, &c. All the precepts before laid down, in regard to these particulars, ought to be most rigidly adhered to. The causes that excite this disease being exposure to cold and wet, and atmospheric vicissitudes generally, it follows, of course, that to prevent their effects, they must be wholly avoided, or the system rendered insensible to their influence. A location enjoying a climate of uniform temperature, would, therefore, be most suitable for the rearing of children, predisposed to consumption : but, as this is out of the question in most cases, the next thing

is to so accustom the system to climatorial changes, so that ordinary exposure shall not affect it. Let the child, then, the first summer after its birth, begin to be accustomed to the use of the cool bath, or cool sponging, gradually diminishing the temperature, till it is brought a little lower than that of the atmosphere in warm weather, and employing it a few degrees above freezing in the winter. Friction with a soft flannel, for a few minutes, ought always to follow the use of the bath; the body should be then well protected with clothing, and exercise taken in the open air. Too much clothing may be employed as well as too little; and the quantity must be regulated by common sense.

This system of bathing need not alarm a tender mother to whom such a proposal is novel, and therefore shocking; for she may rest assured, that quite young children, even long before they begin to talk, become fond of it, and manifest great delight when they see preparations making to give them their usual bath. This plan is not designed to be temporary, or confined to the period of youth; but should be persevered in during the whole life. The proper place for the residence of children of this predisposition is, during the

warm season of the year, in a dry, airy situation in the country. There they should be allowed to run in the open air, to engage in all the sports and exercises of youth, except, perhaps, running violently, or any thing that may produce absolute fatigue and exhaustion.

The diet during childhood, must be regulated according to the individual. When the child is pale and delicate, provided the digestive organs are strong enough, the diet should consist, in part, of meat ; but when there is a glow of health upon the cheek, with strength and activity, — for both these states are seen in this predisposition, — the diet should be of a less stimulating character ; being made to consist of milk, if it agrees with the stomach, and farinaceous articles.

In children, and young persons, predisposed to consumption, who have an active circulation, indicated by red cheeks and lips, there is a strong tendency to inflammatory affections, and frequent, though they may be slight, fevers, from trifling causes. And as their diet should be less exciting, so ought also their plays and exercises to be of a moderate character. Passive exercise, such as riding on horseback, is more proper for these than for those less excitable.

The clothing of young persons, predisposed to consumption, should consist of flannel next the skin, in the cold season ; it should be put on early in the fall, and worn till late in the spring.

The advice here given is applicable to girls as well as boys.

Education. The less that children, under eight years of age, predisposed to consumption, or any form of scrofula, see of the inside of a schoolroom the better. This, to some, may seem strange ; but it is no more strange than true ; and whoever disbelieves the doctrine and persists in treating their children like hot-house plants, forcing their intellect at the expense of the body, may prepare themselves to follow their children to an early grave, and in after life, may suffer from self-reproach for having been the cause of their untimely death.

It is a well known fact, that children predisposed to consumption, generally manifest a precocity of intellect ; in other words, they are uncommonly bright, good scholars, and the pride of their parents and teachers. It is never once thought that this may be the result of a state of the system bordering upon disease, and that a little forcing the intellect may develope the malady

which will destroy life. These bright children are sure to be put forward ; their ambition is stimulated at the sacrifice of health. A contrary course should be pursued ; the health of the body should be cultivated ; vigour should be given to that in proportion to the powers of the mind, and the danger will then be diminished. Intelligent boys of this kind are selected by their doating parents to study a profession, when they, of all their children, are the least able to endure the fatigue, and tax upon their bodily health, to which a student's life subjects them. Instead, therefore, of being put early to study, they ought rather to engage in some agricultural pursuit suitable to their age and strength, till they shall have acquired sufficient stamina to bear the unhealthful effects of confinement to study. Here we have a reason why so many young men break down in the midst of their studies, and so many more soon after they enter upon the practice of their professions. This subject is one that might be much enlarged upon ; but this is not the proper place for it.

Let the rule be, with regard to the education of children, that the physical and mental education keep pace with each other—laying it down as a fixed principle, that study shall not be commenced till the health shall have become good ; that due

attention shall be paid to exercise, &c., and that, whenever the health begins to fail, confinement to a schoolroom shall be discontinued till the health shall have been re-established.

The present boarding-school system of educating girls is open to the most serious objections ; the greatest of which are the too long confinement and too little exercise.

To gratify a whim of fashion, or some other whim equally ridiculous, it is the custom, at what are called the *genteel boarding-schools*, to keep the young misses at their studies from nine in the morning till three in the afternoon, with an intermission of from fifteen minutes to half an hour. During this intermission, exercise is taken to little purpose ; for the schools, generally, have not playgrounds sufficiently airy and extensive. A young lady's education comprises a smattering of so many subjects, and is condensed into so small a compass of time, that nearly all the hours out of school must be spent in hard study, and those studies are forced upon them without regard to natural taste, or capacity for acquirement.

The seats at young ladies' boarding-schools, upon which they are confined so many hours in a day, are without backs ; and thus the muscles, whose office it is to keep the body erect, have a

greater task imposed upon them than they can, for so long a time, perform; and curvature of the spine is the consequence, at first, and consumption, or some other form of scrofula, afterwards. Let there be an intermission of *two hours* instead of *fifteen minutes*, and let the girls be compelled to take the exercise proper to give them health and vigour.

Dr. Clark recommends that a warm bath should form an appendage to every young ladies' boarding-school; and in addition to the bath I would urge the importance of having a gymnasium suitable for the age and sex of the scholars.

The same writer speaks much in favour of exercising the respiratory organs by deep inspirations. The chest should be unencumbered with a tight dress, — and young ladies of a delicate constitution, or predisposed to consumption, should never wear a tight dress;* — the arms are then to be thrown gently back and a succession of deep inspirations taken. This should be repeated several times daily, but not to such an extent as to cause pain.

* I may take the liberty of referring the reader to No. 77, Harper's Family Library, to the article on tight lacing, where the author shows that tight lacing neither contributes to the improvement of the form, nor to the benefit of health, but invariably injures both.

Reading aloud in a full, but not too much an elevated tone of voice, should constitute a daily exercise of the lungs.

Singing, or playing on a wind instrument, I believe in general to be too great a tax upon organs strongly predisposed to consumption, and ought therefore to be avoided.

Riding on horseback is an invaluable exercise for young persons of both sexes. It should form a part of their education; it develops the muscles about the back and chest, gives tone and activity to the digestive organs, and vigor to the whole system.

Fencing is also useful for boys and young men, and should form a part of their education.

There is what is called the club exercise, which Dr. Clark thinks of more service to both sexes than almost anything else.

It is so called from the circumstance of two long pieces of wood; or clubs, being the weights employed, they must, of course, vary in length and size according to the strength and size of the person who is to use them.

The exercise consists in standing in an erect position, and swinging the clubs in various directions about the head, across the shoulders, behind

and before, &c. giving action to all the muscles that are used in moving the upper extremities. I have had no experience in this kind of exercise, but Dr. Clark thinks it superior to the dumb bells, because the action is not as violent, but more gentle and steady. The practice is borrowed from the Persians and Hindoos, who, from their being much accustomed to it, have the muscles of the upper part of the body largely developed with a proportional increase of strength.

This would be a good exercise for the young of both sexes, and particularly for students, and all who suffer from want of exercise. Every family, therefore, might be supplied with one or more pairs of clubs. Battledore and the graces are excellent exercises for young ladies.

The chances for long life must depend much upon the choice of a profession. From what has been already said, an inference will readily be drawn that all professions are to be avoided which will expose one to the causes which develop the disease. Among these may be reckoned a sedentary occupation, without a good deal of active exercise in the open air, public speaking, &c. Of all occupations best suited to one predisposed to consumption, or scrofula in any form,

some branch of agriculture must stand foremost.

This is an interesting and fruitful subject ; and I am sensible that I have by no means done it justice ; the preceding remarks being of a very brief character, and only thrown out as hints to put parents and others on their guard, to call their attention to the subject that they may consult their medical advisers before it is too late to profit by their counsels.

• CHAPTER X.

APOPLEXY, AND OTHER AFFECTIONS OF THE HEAD.

THOUGH not, perhaps, strictly professional, yet in accordance with the designed brevity of this work, I shall comprise, under this head, all or nearly all, the affections of the brain, and some of those of the nervous system. These are all hereditary, to a greater or less extent; a fact of which any one may be assured, if he will call to mind the different members of a family, who have been carried off, or afflicted by any of the diseases mentioned below.

The deaths in this city, from the year 1805, when reports of interments were first made, to 1836, have been as follows:—

Inflammation of the Brain, whole number,	1676
Dropsy of the Brain,	4986
Apoplexy,	2075
Palsy,	1057
Convulsions,	9343
	19,137

These are in proportion to the whole number of

deaths from all diseases, rejecting casualties, suicides, and still-births :—

Inflammation of the Brain,	1 to 72
Dropsy of the Brain,	1 to 24
Apoplexy,	1 to 58
Palsy,	1 to 114
Convulsions,	1 to 13

Here is an immense amount of loss of human life, which might have been prolonged, had the influence of hereditary diseases been fully understood, as well as the causes which bring them into action, and the means of counteracting their fatal tendency.

The deaths reported, from convulsions, do not all, and, perhaps, but a small part, occur in those systems predisposed to apoplexy; nor are convulsions in reality, much akin, in their nature, to apoplexy; for they, are mostly the closing symptoms of a variety of diseases which are reported as *convulsions*.

It is said by writers, that a large head and short neck, constitute the predisposition to apoplexy, and head affections. This is probably so far true, as that one of this conformation, other circumstances being equal, is more likely to be affected with some complaint of the head than one

of a different make ; but it does not follow that one with a small head may not have apoplexy, or that one with a large head must have this disease. Some families predisposed to apoplexy, have not large heads ; but in them the sanguine and nervous temperaments predominate.

It is a fact, well known to those who observe closely, that there are diseases of a certain class, pervading whole families, which are less dependent upon hereditary predisposition, than upon the conduct of the parties themselves. This is particularly the case with the class of diseases now under consideration.

It is seldom that apoplexy occurs among the middle class of people, who are not addicted to the use of alcoholic or fermented drinks ; but it is seen most frequently in the student, the statesman, and those who lead rather inactive lives, and are what are called *free livers*. Any occupation that severely taxes the mental faculties, tends to induce some disease of the brain ; and the danger of this organ becoming diseased is increased by good living, and a life of indolence. Persons fond of high living may expect their children to follow their example, if they do not even go beyond ; and accordingly the infant is soon taught to relish high

seasoned food, to sip his wine, and, in fact, be a youthful epicure. The keen appetite of youth, always ready to gratify itself, upon plain food, if nothing better is equally attainable, is hardly satisfied with the delicacies of a professional cook, while there is room in the stomach to make any further deposits. Need we be surprised when we are suddenly called to a child, pampered in this way, just dying of convulsions? Is it any wonder that children have inflammation of the brain, dropsy of the brain, epilepsy, and apoplexy, in after life, if they attain the age of manhood?

To one who understands these things, it seems little short of ridiculous, when a coroner's jury, after holding an inquest upon a man who has suddenly died of apoplexy, *from excesses in eating and drinking*, brings in a verdict of "*death by visitation of God.*" To me such a verdict seems little short of blasphemy. God has ordained laws by which his creatures are all governed: to the infringement of every one of his laws, there is a penalty annexed: some pain or punishment must follow every transgression. The punishment for gormandizing and debauchery is disease; and that disease may be apoplexy, terminating in death;—death by God's visitation, just as much as any thing else that happens in the natural course of cause and effect.

The time to commence our measures with reference to the prevention of head affections, in a child, is when that child is born ; — or when that child is first conceived in its mother's womb. We have seen the importance of a pregnant female maintaining her health, in as good a state as possible ; and, therefore, if she has previously allowed herself in the indulgence of high living, she must set about an immediate and thorough reformation.

The child's diet, when he is allowed any thing more than breast milk, should be plain, and nutritious, such as has been previously recommended for infants of this age generally. When he is more advanced, and of an age to sit at table with his parents, the best thing is to give him nothing but plain food ; or if that is impracticable at home, he had better be boarded with a farmer in the country.

By plain living I mean a mixed diet ; and for children from three years old, and upwards, this should consist of tender, lean meat, not overcooked, with no seasoning but salt, and no gravy but the juice of the meat : good vegetables, fruits in their season, with a large proportion of farinaceous articles, as rice, bread, &c.

Pastry, which includes all kinds of pies, puddings, cakes and sweetmeats, should form no part of a child's diet, particularly, if it is predisposed to any affection of the head.

Children who are predisposed to head affections, ought never to wear caps, unless it be for a few weeks after birth in the winter; and care should be taken that no article of dress should be worn tight about the neck.

As it is the organ of the mind which is the seat of the diseases under consideration, our chief attention ought to be directed to it. We must, therefore, look at the method to be pursued in the cultivation of the mind. Any thing that calls the brain into action, such as thought, study, the passions, &c., causes an unusual flow of blood into it; and if the quantity, or the force of the circulation, be too great, the vessels are over distended, or suddenly ruptured, constituting a fit of apoplexy. If the flow of blood is less, there is only pain in the head, with more or less confusion of ideas, which will subside, if the brain is allowed to repose.

Common sense teaches us what effect too much exercise, or fatigue of a young brain, predisposed to disease, must produce. No one need be told

that the developement of the disease will be an almost certain result.

When it is suspected that affections of the head constitute the family predisposition, children ought not to be sent to school, till six years of age ; and then no hard task should be given them,—nothing should be done to excite their ambition, unless marked dullness is evinced ; and long confinement in a close room should be always avoided.

A young man with marked hereditary predisposition to head affection,—one, or both of whose parents, may have died of apoplexy,—would, were he to consult his health simply, never engage in severe study, nor follow any profession that would require extraordinary, or prolonged mental exertions.

CHAPTER XI.

INSANITY.

INSANITY, in all its forms and degrees, is now, by all sound physiologists, believed to consist in some diseases of the brain, or, in other words, mental alienation is a symptom, or evidence, of diseased brain. There is no predisposition to disease more clearly hereditary than insanity.

Children born previous to the appearance of the disease in their parents, are generally not liable to an attack ; but those born after the parents have become afflicted are frequently attacked at about the same age that the disease was manifested in the parents.

Esquirol, a French physician, who has probably seen more of this disease than any man, says that mothers are more likely to transmit this disease to their offspring than fathers ; and, consequently, pregnant women should be particularly careful about allowing their minds to be affected by any of the exciting or depressing passions.

In this city the proportion of deaths from insanity from 1805 to 1836, to deaths from all other diseases, is 1 to 329.

The records of insane hospitals show that this disease is hereditary in greater proportion in the better classes of society. "In the Salpêtrière at Paris, the hospital for paupers, of 321 female lunatics only 105 were ascertained to belong to families where the disease already existed ; while, out of 264 of the higher classes, 150 or *more than one-half*, were in this predicament. The experience of Dr. Burrows is still more decisive, as he assures us that he clearly ascertained the existence of a hereditary predisposition in six-sevenths of all his patients in private practice." (Dr. Combe on Mental Derangement.)

Insanity being the result of disease of the brain, all the preventive measures recommended in the preceding chapter are applicable to insanity.

If the children thus predisposed are daughters, they ought, if possible, to avoid the circumstances which excited the disease in their mothers ; their education and management should be directed with reference to this end, and all pains taken to invigorate the nervous system, and preserve tranquillity of mind by exercise in the open air, — country residence a part of the year, — travelling, &c.

If a son inherits the predisposition of his father, the same care should be taken in regard to circumstances, whether it be occupation, exclusive attention to business, and the like ; and if it be the occupation which developed the disease, the son ought to pursue another of a different character, that different mental faculties may be called into action.

CHAPTER XII.

DYSPEPSIA, HYPOCHONDRIA, AND OTHER AFFECTIONS OF THE DIGESTIVE ORGANS.

DISEASES of the digestive organs may be considered as hereditary to some extent ; and to a very great degree they are strictly family complaints.

This predisposition I believe is less likely to be transmitted from parents to children than some others ; but, to compensate for this, diseases of the digestive organs are more likely to be *acquired* by each individual than most of the others of which we have already spoken.

I have more than once alluded to the influence of the mother during pregnancy upon the child which she is to bear ; and if she is a confirmed dyspeptic, her child will probably be delicate, and feeble, and partake more or less of its mother's complaint. Dyspepsia is unlike other, or most other, diseases in one important particular ; and that is, the causes which generate the disease in the pa-

rent, in most cases, operate upon the child after birth. I allude now to an improper course of living; for it is a notorious fact that most dyspeptics are made so by their own imprudence, and that, in this particular, their children are trained up to follow in their footsteps.

Suppose, then, that a child is born of a dyspeptic mother, and that it is not predisposed to its parent's disease any more than to be delicate like most children born of unhealthy parents. The milk of a dyspeptic woman, I have no hesitation in saying, is never healthy, and never suitable to nourish and sustain a feeble infant. Milk is the product of digestion; and how can the product be healthy when the process is unhealthy? A child *may* live and thrive upon improper or unwholesome food; if it does, it may be considered an exception to a general rule—an escape rather than a result to be expected. At any rate, I find in my own practice, that most dyspeptics cannot nurse their own children; and that, frequently, I have saved the lives of infants who have been daily dwindling away, by providing a healthy stranger nurse instead of the mother. It is truly wonderful to see the effect of this change; weeks may be spent in fruitless attempts to control a bowel

complaint, or in a variety of expedients to make the child thrive ; but after a few days, sometimes not more than two or three, more will be accomplished after the child has been put to the breast of a healthy nurse, than has been done in as many weeks, when nursing its mother.

The course to be pursued, then, with the children of dyspeptic mothers who do not thrive well, is to try, if there is no immediate danger, to substitute artificial feeding with a bottle or spoon, not however letting them forget how to suck ; and if a favourable change is not soon wrought, to procure a healthy wet nurse.

During childhood, regard must be paid to the diet ; for the digestive organs, more than any other, are liable to be affected by improprieties in this respect ; so much so, that probably in nine-tenths of the cases where they are diseased, the cause is to be found in errors which might have been avoided.

A plain, nutritious diet, and no other, should be allowed the children who may inherit a predisposition to this class of diseases, or who may be in danger of having them thrust upon them by injudicious parents.

Particular attention ought to be paid to regular

hours of eating, and on no account should lunches be permitted, or the idea encouraged of eating *little and often*. This is the greatest error that can be fallen into. A little food destroys a keen appetite, as any one can easily satisfy himself by experience ; and when the habit becomes established of indulging the appetite as soon as any is felt, there is, in the aggregate, but little food taken ; digestion is not well performed, and consequently the health is not perfect, and the system lacks vigour and energy.

Again I must repeat, that affections of the digestive organs become *family complaints*, not so much by hereditary transmission, as by being acquired or generated, from youth through the whole of life ; and hence, parents must look to their own living ; and, inasmuch as they cannot expect to keep two tables, one for themselves and one for their children, they must effect a reformation in themselves. And here lies the difficulty. They either do not, or their appetite will not let them, see that their high-seasoned food, their made dishes, their rich pastries, sweetmeats, and other articles that pamper the appetite, cause their sick headaches, heartburn, bad taste in the mouth, or distress at the stomach. Even if they are told of the

cause of all their troubles, they will not believe the truth. "Why," they say, "a little of this can't hurt, and a little of that can't hurt, and a little of the other can't hurt; we have always eaten these things!" Yes, and they have always been unwell; and have never been prevailed upon to live as they ought, long enough to recover from the effects of years of imprudence.

The most comprehensive, as well as most generally applicable advice that I can give to dyspeptics, who are made so by too free living, is, to *eat but three times a day, and try how cheaply they can live.*

Hypochondria, the Vapours, the Blues, &c. may be regarded only as indicative of deranged digestion, or disease of the digestive organs, and not by any means, as specific diseases, and therefore not requiring any special notice in this place, as they are incidental only to adults, and the application of this work is limited in its design to the management of children.

CHAPTER XIII.

GOUT AND RHEUMATISM.

THESE diseases resemble each other so strongly, in their prominent features, that some have regarded them, if not identical, at least as belonging to the same family. At any rate, their features are so much alike, that, in practice, it is not always easy to say, with certainty, which is gout, and which rheumatism. In one particular, however, and which is most essential to our present purpose, there is little difference; and that is in being as decidedly hereditary as any two diseases in the class of human maladies. This fact does not preclude the existence of another, to wit: that they may both be generated anew, by the application, in sufficient force, of the legitimate causes. When gout is hereditary, it does not often show itself till about the period of manhood. Rheumatism is developed at any time of childhood. The most efficient, if not the only original, cause of gout, is high living, when not hereditary: the same cause

may also predispose the system to rheumatism, or excite it where the predisposition already exists; but then this disease occurs, as frequently as elsewhere, where the living could have had no agency in its production.

Of these two diseases, rheumatism is more frequently fatal; the proportion of deaths in this city, from 1805 to 1836, being as one to 619 of the whole number of deaths, from all diseases; while the proportion from gout, was one to 1828.

Prevention of a disease, implies avoiding the causes which excite or predispose to it; and to do this we must know what these causes are. High, or good living, I have already said, is the most general cause of gout, and therefore, a contrary course should be its preventive. I have, therefore, only to repeat the same advice to parents, subject to gout, in regard to the diet of their children, that I have already given under the head of apoplexy, dyspepsia, &c.; so that, if the children subsequently suffer from gout, they may give their parents credit for half the twinges they experience. Rheumatism is more a disease of climatorial influence, and atmospherical vicissitude. This is evinced by its greater prevalence in winter and spring; and by its more frequent occurrence in

latitudes where the temperature is subject to great changes. The remedial measures must, therefore, be different from those applicable to gout; and we must endeavour to render the system, as much as may be, proof against the causes which induce this disease. This may be best done, provided the precepts that I have all along endeavoured to inculcate, in regard to diet, &c., have been followed, by bathing the feet and limbs, or the whole body, after the first few months, in cold water, and applying, afterwards, a moderate degree of friction.

Flannel should be worn next the skin during the cool season, till warm weather, and the system invigorated by active exercise in the open air.

The practice of cold bathing, to be of any avail, should be persevered in; and the most happy results may be then anticipated. In persons subject to rheumatism for years, I have known the disease diminished, two-thirds, by a few months' application of the cold bath to the feet and lower limbs. But when it is commenced late in life, it must be employed, at first, with caution.

CHAPTER XIV.

MARRIAGE.

THOUGH marriage, strictly speaking, does not come under the head of "management of young children," yet, our Hygienic principles in regard to the prevention of hereditary diseases, would not be fully expressed, nor clearly understood, if this subject were passed over in silence. It is an invariable law, in the doctrine of causation, that the effect shall be in direct proportion to its cause. Let us keep this law in view, and look at its bearings and effects, when brought into operation by matrimony. It is well known that it is the custom, in many countries, much less in ours than in others, for different branches of the same family to form matrimonial alliances, from generation to generation. It is even the case in our own land, to some extent; but when not confined to *families*, marriages, almost necessarily, to considerable extent, take place between those of the same class, or station in society.

The effect of continued intermarriage between members of the same family, is such, that very often, whole families become extinct, in the second or third generation; or, if the race is perpetuated, those who survive are feeble, both in intellect and body. The same is the result, though in a less degree, from intermarriages between different families of the wealthy class. Here, there is a similarity in the habits of living, generally all tending to create some peculiar predisposition, which, sooner or later, is manifested.

When *both* parents are predisposed to disease of any kind, it is almost a miracle, if the children of such a parentage, escape inheriting it; for the cause, in this case, is doubled, and the effect must be looked for with certainty. Therefore it is, when the predisposition is not, in a measure, destroyed by intermarriage with a healthy person, that we see all hereditary diseases upon the increase, their characters more strongly marked in families, and their fatal effects more frequently occurring.

On the contrary, if a different course were pursued, — if those who inherit predisposition to disease, were to contract matrimonial alliances with the healthy and robust, — the third generation in-

stead of becoming extinct, would have recovered the original health and vigour of their family.

What then is to be done ? what rule or principle is to govern in forming matrimonial connections ?

These questions are more easily put, than practically and satisfactorily answered. Philosophy, or a knowledge of the laws of hereditary diseases, may indicate a proper course ; but the finger of philosophy will not be sufficient to direct the aim of the blind god Cupid : it is his delight to disregard the monitions of wisdom, and to scatter his arrows where it suits his wayward fancy. But there is another love than this : there is a love, so called, into which many are drawn by *chains of gold*. There is a love of money, which is the basis of as many marriages as any other kind of love ; and these marriages are sought where family disease is most likely to exist, — among the wealthy.

Shall a parent dictate to his children, whom they shall marry ? A parent shall instruct his children in regard to hereditary diseases, and, if they inherit any tendency to disease, it ought to be a part of his duty to make them fully understand the general principles of its transmission.

This he owes to his children, and to those who might be induced to become their partners; otherwise their marriage would be a deception, and years of misery might be entailed upon the unsuspecting. How many fathers, with the seeds of fatal disease about them when they marry, leave a widow with a family of little children, with slender means of support? Is this right, without, at least, warning both parties that such a result may occur?

Parents do interfere with the matrimonial affairs of their children, where money is concerned; and I know of no reason why they may not equally interfere, when their health is concerned. I would ask for no further interference than this; and I would advise wealthy parents to look more to the health and character of those who may become members of their family, than to the amount of their income, or their prospects from rich relations.

There is a duty we owe to posterity, and I can see no justice in inflicting certain disease upon our children, to gratify what is not always the holy and pure passion of love. Let every one concerned be his own judge, how far self sacrifice

ought to be made, rather than incur the risk of entailing disease upon a succeeding race.

If marriages do take place between parties where one or both are predisposed to disease, every reasonable precaution and care ought to be taken to eradicate the inherent taint, or prevent its developement in them and their offspring.

APPENDIX.

MORTALITY OF INFANTS IN THE FIRST YEAR OF THEIR EXISTENCE. — BY PROFESSOR RAU OF BERN.

*26	in	100	of	the	deaths	in	Russia,	are	of	children	under one year old.
21	"	"	"	"	"	"	Rh. Prussia, and Westphalia.				
21	"	"	"	"	"	"	France.				
29	"	"	"	"	"	"	Department of the Seine.				
22	"	"	"	"	"	"	Sweden.				
23	"	"	"	"	"	"	Courland.				
18	"	"	"	"	"	"	Paris.				
22	"	"	"	"	"	"	Amsterdam.				
22	"	"	"	"	"	"	Philadelphia.				

Of the whole number of children born, there die before the expiration of the first year: —

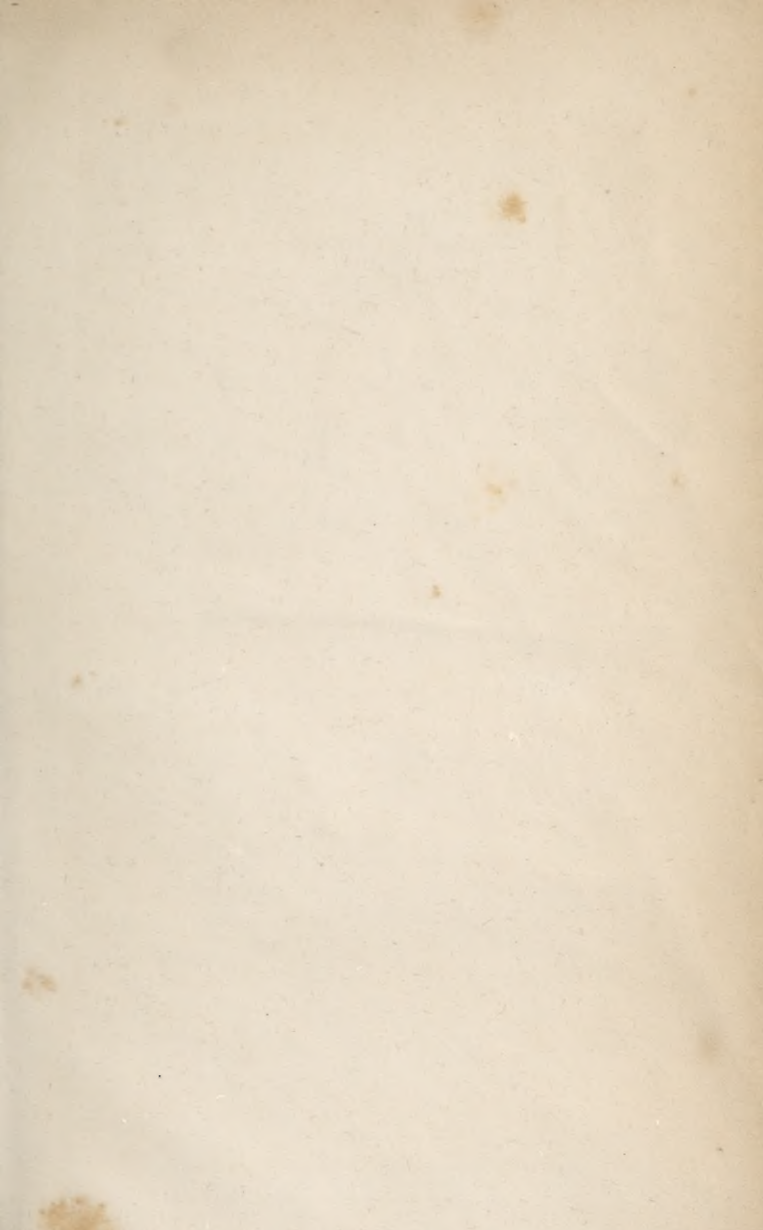
*23	in	100	in	Paris.
20	"	"	"	Sweden.
33	"	"	"	the Province of Kasan, (in Russia.)

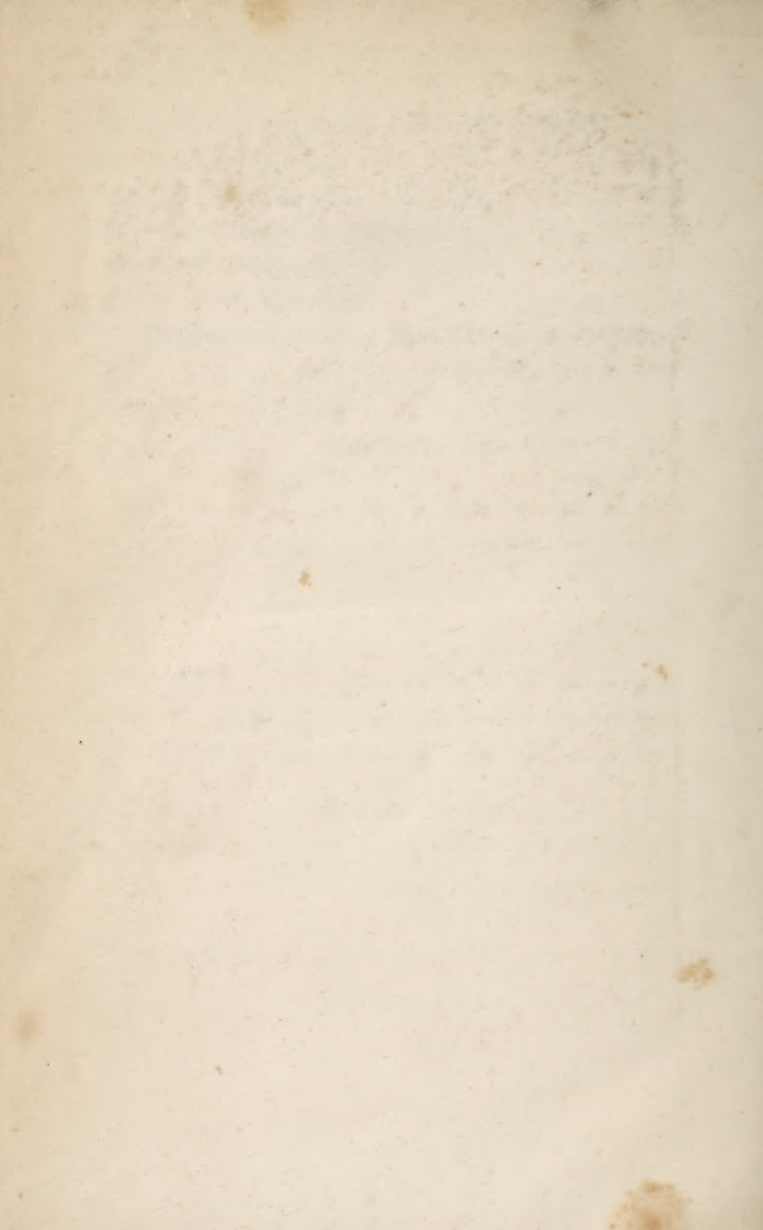
* Rejecting fractions.

- 21 in 100 in Russia (in the level country.)
25 " " " Berlin.
32 " " " London.
31 " " " St. Petersburg.
16 " " " Prussia.
17 " " " Courland.

(British and Foreign Med. Review for April.)

THE END.





Peter

